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PART A
IONOSPHERIC DATA

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U. S. DEPARTMENT OF COMMERCE
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CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

IONOSPHERIC DATA

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SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given in Document No. 626-E referred to above, plus an additional symbol, R: "Scaling of characteristic is influenced or prevented by absorption in the neighborhood of the critical frequency," (May 1955). Also, beginning with January 1956, additional meanings are assigned to T: A smoothed value which better fits the observations, replacing a doubtful or clearly inconsistent observed value; and to U: f_oF_2 minus f_oF_1 is 0.5 Mc or less (used with (M3000) F_2).

a. For all ionospheric characteristics:

Values missing because of A, C, F, L, M, N, Q, R, S, or T are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of f_oF_2 (and f_oE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of $h'F_2$ (and $h'E$ near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For f_oF_2 , as equal to or less than f_oF_1 .
2. For $h'F_2$, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G (and B when applied to the daytime E region only) are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

At night B for fEs is counted on the low side when there is a numerical value of foF2; otherwise it is omitted from the median count.

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D. C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If only four values or less are available, the data are considered insufficient and no median value is computed.

2. For the F2 layer, if only five to nine values are available, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as there are at least five values, the median is not considered doubtful.

3. For all layers, if more than half of the values used to compute the median are doubtful (either doubtful or interpolated), the median is considered doubtful.

The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in IRPL-F18.

The tables and graphs of ionospheric data are correct for the values reported to the CRPL; but, because of variations in practice

in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of the errors are due to:

- a. Differences in scaling records when spread echoes are present.
- b. Omission of values when f_oF_2 is less than or equal to f_oF_1 , leading to erroneously high values of monthly averages or median values.
- c. Omission of values when critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series report TRPL-F5.

Ordinarily, a blank space in the fEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of f_oE . Blank spaces at the beginning and end of columns of $h'F_1$, f_oF_1 , $h'E$, and f_oE are usually the result of diurnal variation in these characteristics. Complete absence of medians of $h'F_1$ and f_oF_1 is usually the result of seasonal effects.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. The following points are worthy of note:

- a. Predictions for individual stations used to construct the charts may be more accurate than the values read from the charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. Thus, inasmuch as the predicted contours are for the center of each zone, part of the discrepancy between the predicted and observed values as given in the F series may be caused by the fact that the station is not centrally located within the zone.
- b. The final presentation of the predictions is dependent upon the latest available ionospheric and radio propagation data, as well as upon predicted sunspot number.
- c. There is no indication on the graphs of the relative reliability of the data; it is necessary to consult the tables for such information.

PREDICTED AND OBSERVED SUNSPOT NUMBERS

The following predicted smoothed 12-month running-average Zürich sunspot numbers were used in constructing the contour charts:

Month	Predicted Sunspot Number										
	1956	1955	1954	1953	1952	1951	1950	1949	1948	1947	1946
December		42	11	15	33	53	86	108	114	126	85
November		35	10	16	38	52	87	112	115	124	83
October		31	10	17	43	52	90	114	116	119	81
September		30	8	18	46	54	91	115	117	121	79
August	105	27	8	18	49	57	96	111	123	122	77
July	95	22	8	20	51	60	101	108	125	116	73
June	89	18	9	21	52	63	103	108	129	112	67
May	77	16	10	22	52	68	102	108	130	109	67
April	68	13	10	24	52	74	101	109	133	107	62
March	60	14	11	27	52	78	103	111	133	105	51
February	53	14	12	29	51	82	103	113	133	90	46
January	48	12	14	30	53	85	105	112	130	88	42

The latest available information follows concerning the corresponding observed Zürich numbers (some of which may be subject to minor change) beginning with the minimum of April 1954.

Observed Sunspot Number

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1954				3	4	4	5	7	8	8	9	12
1955	14	16	19	23	29	35	40	46				

WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 144 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Commonwealth of Australia, Ionospheric Prediction Service of the
Commonwealth Observatory:

Brisbane, Australia
Canberra, Australia
Hobart, Tasmania
Townsville, Australia

Australian Department of Supply and Shipping, Bureau of Mineral
Resources, Geology and Geophysics:
Watheroo, Western Australia

University of Graz:
Graz, Austria

Meteorological Service of the Belgian Congo and Ruanda-Urundi:
Elisabethville, Belgian Congo
Leopoldville, Belgian Congo

British Department of Scientific and Industrial Research, Radio
Research Board:
Falkland Is.
Ibadan, Nigeria (University College of Ibadan)
Inverness, Scotland
Singapore, British Malaya
Slough, England

Defence Research Board, Canada:
Resolute Bay, Canada

Radio Wave Research Laboratories, National Taiwan University, Taipei,
Formosa, China:
Formosa, China

Danish National Committee of URSI:
Godhavn, Greenland

Institute for Ionospheric Research, Lindau Über Northeim, Hannover,
Germany:
Lindau/Harz, Germany

The Royal Netherlands Meteorological Institute:
De Bilt, Holland

Ministry of Postal Services, Radio Research Laboratories, Tokyo,
Japan:
Akita, Japan
Tokyo (Kokubunji), Japan
Wakkanai, Japan
Yamagawa, Japan

Christchurch Geophysical Observatory, New Zealand Department of
Scientific and Industrial Research:

Campbell I.
Christchurch, New Zealand
Rarotonga, Cook Is.

Norwegian Defence Research Establishment, Kjeller per Lillestrom,
Norway:

Oslo, Norway
Tromso, Norway

Manila Observatory:

Baguio, P. I.

South African Council for Scientific and Industrial Research:

Capetown, Union of South Africa
Johannesburg, Union of South Africa
Nairobi, Kenya (East African Meteorological Department)

Research Institute of National Defence, Stockholm, Sweden:

Upsala, Sweden

Post, Telephone and Telegraph Administration, Berne, Switzerland:

Schwarzenburg, Switzerland

United States Army Signal Corps:

Adak, Alaska
Ft. Monmouth, New Jersey
Okinawa I.
White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):

Anchorage, Alaska
Fairbanks, Alaska (Geophysical Institute of the
University of Alaska)
Guam I.
Maui, Hawaii
Narsarssuak, Greenland
Panama Canal Zone
Point Barrow, Alaska
Puerto Rico, W. I.
Washington, D. C.

HOURLY IONOSPHERIC DATA AT WASHINGTON, D. C.

The data given in tables 73 through 84 follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given above under "Symbols, Terminology, Conventions." Beginning with September 1949, the data are taken at Ft. Belvoir, Virginia.

The interpretation of a cell is as follows: U F
32

The U is a weight meaning doubtful. Other weights are I, interpolated, D, greater than, and E, less than. Absence of a letter in the upper left position means full weight is given to the observation.

Symbols such as F above are given in the upper right position.

There should be no difficulty in the placing of the decimal point. For the time being, a final zero will be found in each value of foE. Thus at a later date it will be possible to register more closely scaled values of this characteristic, whenever such are reported.

ERRATUM

1. F138(A), p. 46, fig. 63: A "<" should appear before "2.8" across 17 hour line under Es label.

Table 1

Washington, O. C. (38.7°N, 77.1°W) February 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	270	4.3					2.95
01	270	3.8					2.95
02	270	4.0					2.90
03	260	4.2					3.00
04	260	3.7					3.00
05	250	3.4					3.05
06	260	3.1					3.00
07	240	4.6				1.7	3.20
08	230	7.0	---	---	111	2.4	3.40
09	230	8.2	220	---	107	2.8	3.35
10	240	9.2	220	---	105	3.2	3.25
11	250	10.2	215	---	105	3.4	3.20
12	250	10.0	210	---	107	3.5	3.20
13	250	9.8	210	---	109	3.4	3.15
14	250	9.9	220	---	108	3.3	3.20
15	250	9.6	220	---	109	3.1	3.10
16	240	9.3	230	---	111	2.8	3.20
17	230	9.2	---	---	121	2.2	3.20
18	220	8.4	---	---	---	---	3.20
19	220	7.4	---	---	---	---	3.10
20	230	6.3	---	---	---	---	3.15
21	235	5.3	---	---	---	---	3.10
22	250	5.1	---	---	---	---	3.10
23	260	4.5	---	---	---	---	3.00

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2

Tromsø, Norway (69.7°N, 19.0°E) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	---	---					4.3
01	---	---					4.0
02	---	---					4.3
03	---	---					4.4
04	---	3.2					3.6
05	(280)	3.2					3.2
06	(275)	2.6					2.9
07	(255)	2.4					2.7
08	270	2.6					2.5
09	260	3.9			---	---	<1.8
10	245	5.1			---	---	2.0
11	245	5.9			---	---	2.0
12	240	6.6	---	---	---	---	2.0
13	240	6.3			---	---	<2.3
14	240	5.7			---	---	2.4
15	240	4.2			---	---	1.9
16	240	3.3			---	---	4.0
17	(250)	2.4					4.0
18	---	(2.7)					4.4
19	---	---					4.2
20	---	---					4.8
21	---	---					5.0
22	---	---					4.0
23	---	---					4.0

Time: 15.0°E.

Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 3

Fairbanks, Alaska (64.9°N, 147.8°W) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	---	---					5.3
01	---	---					5.6
02	---	---					5.2
03	(3.6)						5.0
04	---	---					5.6
05	(3.0)						5.4
06	(2.9)						4.2
07	(2.6)						2.8
08	(3.0)						1.4
09	(4.4)						1.6
10	(5.6)						(3.40)
11	(6.6)						(3.40)
12	(7.0)						(3.35)
13	7.4						3.35
14	(7.0)						3.20
15	(6.6)						3.30
16	(6.2)						(3.35)
17	(5.2)						(3.40)
18	(3.4)						(3.40)
19	(2.6)						(3.20)
20	(2.1)					2.2	(3.10)
21	(2.6)					2.7	(3.10)
22	(2.0)					4.5	(3.20)
23	(1.8)					4.8	---

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 4

Anchorage, Alaska (61.2°N, 149.9°W) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00		(2.2)					(2.70)
01		2.4					2.70
02		2.6					2.60
03		(2.8)					1.9
04		(3.0)					2.0
05		(3.3)					(2.60)
06		(3.2)					(2.70)
07		2.8					2.70
08		(3.0)					2.70
09		4.6					3.00
10		6.2					3.15
11		7.2					3.15
12		7.8					3.05
13		7.9					3.15
14		7.5					3.10
15		6.9					3.10
16		6.2					3.10
17		5.6					3.05
18		4.2					3.00
19		2.8					2.80
20		(2.3)					2.85
21		(2.1)					2.80
22		2.0					2.75
23		(2.1)					2.80

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 5

Narsarsuaq, Greenland (61.2°N, 45.4°W) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00		(3.2)					5.0
01		(3.2)					5.0
02		(3.2)					4.5
03		(3.9)					4.5
04		(4.2)					4.5
05		(3.8)					4.4
06		3.0					4.2
07		2.4					3.5
08		3.0					2.3
09		4.6					3.30
10		5.8					3.35
11		6.6					3.30
12		7.6					3.25
13		7.0					3.5
14		6.4					2.1
15		5.3					2.1
16		(4.0)					4.0
17		3.5					4.6
18		(3.7)					4.5
19		3.8					4.5
20		(3.6)					4.8
21		(3.7)					5.4
22		(3.8)					4.5
23		(3.2)					6.0

Time: 45.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 6

Oslo, Norway (60.0°N, 11.1°E) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	---	1.9					<1.4
01	(340)	1.9					<1.3
02	(310)	1.6					<1.3
03	300	2.0					<1.1
04	300	2.0					1.3
05	295	2.2					<1.3
06	270	2.2					<1.3
07	(260)	2.3					<1.4
08	245	2.8					<1.4
09	235	4.8					<2.1
10	235	6.2					<2.1
11	240	7.2	245	---	---	---	<2.3
12	240	7.8	240	---	---	---	<2.7
13	230	7.8	240	---	---	---	2.7
14	225	7.6	245	---	---	---	<2.4
15	220	6.9	---	---	---	---	<2.1
16	225	6.6			---	---	<1.8
17	220	5.4			---	---	<1.4
18	225	4.1			---	---	<1.4
19	(250)	2.6			---	---	<1.6
20	---	2.2			---	---	<1.4
21	---	2.1			---	---	<1.4
22	---	2.0			---	---	<1.4
23	---	2.0			---	---	<1.4

Time: 15.0°E.

Sweep: 0.7 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 7

Upsala, Sweden (59.8°N, 17.6°E) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	350	(2.1)					2.6 (2.7)
01	340	(2.1)					2.6 2.7
02	335	(2.1)					2.5 2.8
03	310	(2.1)					2.5 2.8
04	310	2.3					3.0 2.8
05	300	2.2					2.7 2.8
06	290	2.0					2.5 2.8
07	300	2.1					2.8 2.9
08	240	3.8					3.0
09	225	5.6			120	1.7	2.5 3.2
10	230	6.8			110	1.9	3.2
11	230	7.8	235	(3.2)	115	2.0	3.2
12	225	8.2	230	(3.2)		2.0	3.3
13	225	8.1	240	(3.2)	(130)	2.0	2.2 3.3
14	230	7.8			110	1.9	2.2 3.3
15	215	6.9				1.6	3.3
16	215	6.2				E	1.8 3.2
17	215	5.0					3.2
18	235	3.4					3.0
19	265	2.5					2.9
20	330	2.2					2.3 2.8
21	325	(2.0)					2.8
22	350	(1.8)					1.8 (2.7)
23	350	(1.9)					(2.7)

Time: 15.0°E.

Sweep: 1.4 Mc to 17.0 Mc in 6 minutes, automatic operation.

Table 9

Graz, Austria (47.1°N, 15.5°E) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	360	3.3					
01	330	3.4					
02	345	3.3					
03	300	3.5					
04	300	3.2					
05	(290)	3.0					
06	---	2.7					
07	290	3.2					
08	230	6.1					
09	230	7.7					
10	240	8.5					
11	250	8.6					
12	235	8.4					
13	240	8.3					
14	240	>8.4					
15	230	7.8					
16	210	7.2					
17	235	6.8					
18	235	5.2					
19	250	4.0					
20	280	3.4					
21	(300)	3.3					
22	(320)	3.2					
23	(320)	3.3					

Time: 15.0°E.

Sweep: 2.5 Mc to 12.0 Mc in 2 minutes.

Table 11

White Sands, New Mexico (32.3°N, 106.5°W) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	280	3.5					2.3 2.85
01	280	3.7					2.2 2.90
02	270	3.8					3.0 3.00
03	260	3.8					2.3 3.05
04	260	3.5					2.3 3.05
05	260	3.2					2.5 2.90
06	<290	3.0					2.2 2.90
07	270	4.5					3.1 3.10
08	240	6.8			130		4.3 3.35
09	240	7.9	235	---	125	(2.7)	4.0 3.30
10	250	8.4	230	---	119	(3.0)	5.0 3.25
11	270	9.3	225	(4.8)	119	(3.2)	5.0 3.10
12	260	10.3	230	(4.7)	119	(3.3)	4.9 3.20
13	270	9.8	225	(4.7)	119	(3.3)	4.7 3.05
14	270	9.9	225	---	117	(3.3)	4.3 3.10
15	260	9.7	230	---	119	(3.1)	4.5 3.10
16	250	9.2	230	---	121	(2.8)	4.0 3.10
17	230	8.6	235	---	123	---	3.4 3.25
18	220	6.6					3.7 3.25
19	230	5.0					2.4 3.20
20	240	4.1					3.0 3.25
21	<260	3.2					2.5 3.00
22	280	3.0					2.6 2.85
23	<300	3.1					2.5 2.85

Time: 105.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 8

Adak, Alaska (51.9°N, 176.6°W) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	320	(2.7)					(2.85)
01	340	(2.7)					(2.70)
02	340	(2.7)					(2.70)
03	320	(2.7)					(2.75)
04	320	(2.8)					(2.90)
05	300	(2.8)					(3.00)
06	300	(2.6)					(2.90)
07	310	2.8					(3.00)
08	240	5.4					3.20
09	250	7.2	---	---	---	---	1.5 3.20
10	250	8.2	---	---	---	---	3.20
11	250	8.5	---	---	---	---	3.15
12	250	8.4	---	---	---	---	3.25
13	250	8.3	---	---	---	---	3.20
14	250	8.2	---	---	---	---	3.20
15	240	7.7	---	---	---	---	3.30
16	240	6.5					3.25
17	240	5.6					3.15
18	240	4.0					3.30
19	250	2.5					3.30
20	300	(2.3)					3.05
21	320	2.3					2.90
22	340	(2.5)					2.75
23	320	(2.7)					(2.80)

Time: 180.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 10

Ft. Monmouth, New Jersey (40.3°N, 74.1°W) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	280	3.0					3.00
01	280	3.1					2.95
02	270	(3.2)					(2.95)
03	250	(3.5)					(3.00)
04	240	3.5					3.10
05	240	3.0					3.10
06	250	2.8					3.10
07	240	3.9					3.20
08	220	6.5	---	---	129	<1.6	3.50
09	220	7.7	220	---	111	(2.6)	2.7 3.50
10	230	8.7	210	---	113	(3.0)	3.0 3.40
11	240	9.6	210	---	115	(3.1)	3.40
12	240	9.7	210	---	111	(3.2)	3.2 3.30
13	240	9.4	210	---	113	(3.1)	3.1 3.20
14	240	9.4	220	---	115	(3.0)	3.0 3.20
15	230	9.8	225	---	117	(2.7)	3.25
16	220	9.0	235	---	121	(2.3)	3.30
17	220	8.1			---	<1.8	3.25
18	220	7.8					3.20
19	220	6.3					3.30
20	230	4.8					3.25
21	250	3.9					3.10
22	260	3.4					3.15
23	270	3.0					3.00

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 12

Okinawa I. (26.3°N, 127.8°E) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	270	4.5					2.85
01	270	4.2					2.95
02	260	4.4					3.05
03	240	3.9					3.15
04	240	3.0					3.05
05	290	2.6					2.2 2.85
06	300	2.5					2.85
07	270	3.5					3.00
08	240	7.5	---	---	119	2.2	3.1 3.45
09	240	9.0	230	---	109	2.8	4.0 3.45
10	250	10.1	220	---	109	3.2	4.2 3.40
11	250	10.0	220	---	107	3.4	4.9 3.25
12	280	11.5	210	---	---	3.6	5.2 3.10
13	280	13.2	220	---	109	3.6	4.7 3.10
14	260	12.9	210	---	113	(3.5)	4.6 3.15
15	250	12.2	220	---	115	3.4	4.6 3.10
16	250	11.0	230	---	111	3.0	4.0 3.20
17	240	10.6	240	---	117	2.5	3.4 3.35
18	210	9.7					2.7 3.35
19	220	7.9					2.9 3.15
20	220	7.6					2.4 3.15
21	220	7.7					2.0 3.20
22	220	5.7					3.20
23	240	4.8					1.8 2.95

Time: 135.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 12.5 seconds.

Table 13

Formosa China (25.0°N, 121.5°E) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	270	4.8					<1.7 2.80
01	260	4.6					<1.6 2.90
02	240	4.1					<1.7 3.00
03	240	3.7					1.9 3.15
04	280	2.9					<1.4 2.90
05	310	2.7					<1.4 2.60
06	320	2.8					<1.5 2.70
07	260	6.4			160	<1.7	3.20
08	250	8.8			120	2.6	3.35
09	250	9.8	240	---	120	3.0	3.2
10	250	11.2	240	(4.6)	120	3.3	4.0
11	280	12.0	220	4.7	120	3.4	4.2
12	280	13.5	220	4.9	120	3.5	4.2
13	280	14.0	230	(4.7)	120	3.5	4.2
14	280	14.2	230	(4.7)	120	3.5	4.0
15	280	13.8	240	4.6	120	3.2	4.0
16	250	13.5	240	(3.8)	---	---	3.3
17	240	12.8			---	---	2.4
18	220	10.0					2.5
19	220	9.6					2.6
20	230	10.1					2.4
21	220	8.3					2.1
22	240	6.2					2.0
23	260	5.2					<1.7 2.90

Time: 120.0°E.

Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 15

Puerto Rico, W. I. (18.5°N, 67.2°W) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	300	4.3					<1.8 2.85
01	260	4.5					<1.8 3.05
02	240	4.5					<1.8 3.20
03	250	4.3					<1.9 3.10
04	260	3.9					<1.8 3.00
05	265	3.8					<1.7 2.90
06	260	3.7					<1.8 3.00
07	240	4.8			---	<1.8	<1.8 3.25
08	230	7.7	235	---	109	2.3	3.45
09	250	9.3	230	---	109	3.0	3.45
10	240	9.9	215	---	107	3.3	3.45
11	250	9.2	210	4.8	109	3.4	3.35
12	265	8.9	210	4.8	109	3.5	4.1
13	290	9.4	225	5.0	(107)	3.5	3.9
14	280	9.8	225	5.0	109	3.5	4.5
15	270	9.3	220	(4.8)	109	3.3	4.0
16	260	9.3	225	---	109	3.0	3.7
17	250	9.7	240	---	115	2.6	3.4
18	230	9.3			---	---	<3.0 3.30
19	210	7.3					2.7 3.30
20	225	5.5					<2.3 3.20
21	250	4.8					<2.2 3.10
22	250	4.4					<1.9 3.00
23	280	4.2					<1.9 2.85

Time: 60.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 17

Panama Canal Zone (9.4°N, 79.9°W) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	240	(5.1)					(3.10)
01	240	(4.4)					(3.10)
02	240	(3.5)					3.2 (3.10)
03	260	(3.0)					3.0 (3.10)
04	(260)	2.5					3.5 3.05
05	280	(2.8)					3.1 2.90
06	290	3.1					2.2 2.85
07	250	6.4	---	---	---	---	3.2 3.20
08	260	9.2	240	---	115	(2.6)	3.1 3.20
09	270	11.0	230	---	(117)	(3.1)	3.5 3.20
10	270	11.5	210	(5.1)	(115)	(3.5)	4.2 3.20
11	280	10.9	205	5.2	(110)	(3.6)	4.8 3.05
12	300	10.5	200	5.3	117	(3.7)	4.6 2.90
13	340	11.0	205	5.5	117	(3.7)	5.0 2.75
14	330	11.9	230	5.4	(115)	3.6	4.9 2.85
15	300	12.2	240	5.2	(115)	3.4	5.1 2.95
16	280	11.5	230	---	115	3.1	5.1 3.00
17	250	10.6	240	---	120	2.7	4.1 3.05
18	240	9.5			---	---	4.7 3.10
19	230	8.2					4.3 3.20
20	230	6.2					3.6 3.20
21	240	5.0					2.3 3.00
22	245	(4.9)					2.0 3.05
23	250	(5.4)					(3.10)

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 14

Maui, Hawaii (20.8°N, 156.5°W) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	275	3.7					2.90
01	270	3.5					2.95
02	250	3.5					3.25
03	240	3.2					1.5 3.20
04	240	2.3					2.0 3.00
05	280	2.2					1.7 2.90
06	290	2.0					1.8 2.85
07	280	4.3			---	---	2.3 3.00
08	250	7.6	250	---	125	2.3	3.6 3.25
09	270	9.9	240	---	115	3.0	5.1 3.15
10	270	11.4	225	---	111	3.3	5.6 3.25
11	270	11.3	215	4.8	111	3.5	5.7 3.10
12	300	11.5	210	5.0	111	3.6	6.6 2.90
13	310	13.0	220	5.0	111	3.6	6.0 2.90
14	290	13.6	230	---	111	3.4	5.6 3.00
15	270	13.0	240	---	111	3.3	5.2 3.00
16	250	11.5	230	---	115	3.0	5.0 3.10
17	240	10.8	245	---	119	2.4	4.9 3.20
18	230	9.0					5.0 3.40
19	220	5.8					4.5 3.25
20	240	5.4					4.0 3.05
21	240	5.6					3.0 3.20
22	230	4.7					2.5 3.20
23	250	4.0					3.00

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 16

Guam I. (13.6°N, 144.9°E) January 1956							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	230	7.7					2.7 3.2
01	230	7.3					2.1 3.2
02	230	6.3					1.8 3.3
03	230	5.0					3.2
04	240	4.4					1.6 3.1
05	240	3.8					1.8 3.2
06	240	2.9					1.6 3.2
07	250	5.6			131	1.5	2.0 3.2
08	---	8.8	235	---	111	2.5	3.3 3.2
09	(290)	11.0	220	---	109	3.0	3.1
10	(290)	11.5	210	---	111	3.3	2.7
11	(290)	10.4	200	---	111	3.4	3.4 2.5
12	(300)	9.9	200	5.0	111	3.5	2.5
13	---	10.2	200	---	111	3.4	2.5
14	---	10.6	210	---	111	3.4	2.5
15	---	10.8	210	---	111	3.3	3.7 2.6
16	---	11.5	225	---	111	3.1	3.3 2.7
17	250	11.5	240	---	115	2.6	3.4 2.9
18	250	11.5					2.8 3.0
19	260	11.1					2.2 3.0
20	270	11.0					2.2 2.9
21	250	10.4					2.9 3.0
22	240	9.4					3.1 3.2
23	230	8.4					3.7 3.2

Time: 150.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 18

Anchorage, Alaska (61.2°N, 149.9°W) December 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	310	1.8					<1.4 2.8
01	(300)	1.8					<1.5 2.7
02	<340	2.4					2.5 2.6
03	360	3.2					<2.2 2.6
04	(330)	2.8					<1.6 2.6
05	330	2.8					<1.5 2.6
06	320	2.8					<1.4 2.75
07	300	2.4					<1.4 2.8
08	270	3.1					<1.6 2.8
09	250	4.5					<1.8 3.1
10	240	6.6					<2.0 3.2
11	240	7.6					<2.2 3.2
12	240	8.2					<2.2 3.2
13	240	8.5					(1.9) 3.2
14	230	8.5			---	---	<1.8 3.2
15	230	7.0					<1.7 3.2
16	230	5.6					3.2
17	230	4.7					<1.6 3.15
18	240	3.4					<1.5 3.15
19	260	2.3					<1.5 3.1
20	(270)	1.8					<1.5 (3.1)
21	(300)	(1.8)					<1.5 (3.0)
22	(290)	1.9					<1.6 2.95
23	(290)	1.8					<1.4 2.8

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 19

Narsarsuaq, Greenland (61.2°N, 45.4°W)								December 1955	
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2	
00	300	(3.8)					4.5	(2.95)	
01	(300)	3.9					4.6	3.0	
02	(350)	3.6					4.6	2.9	
03	310	4.0					4.5	2.9	
04	290	3.6					4.0	3.0	
05	280	3.7					3.8	3.1	
06	270	3.1					4.2	3.1	
07	290	2.7					3.2	3.1	
08	270	3.0					<2.7	3.1	
09	240	4.9					<2.1	3.3	
10	240	6.6					<2.2	3.3	
11	240	7.6	250	---	130	2.0	2.2	3.3	
12	230	8.2	---	---	130	2.1	<2.2	3.3	
13	240	7.4	---	---	130	2.0	<2.2	3.2	
14	230	6.9					2.2	3.3	
15	240	6.7					<2.3	3.2	
16	250	5.3					<2.6	3.1	
17	270	4.1					3.0	3.1	
18	300	3.5					3.8	3.05	
19	320	3.2					3.8	3.0	
20	320	3.2					4.4	3.0	
21	290	3.4					4.2	3.05	
22	300	3.7					4.5	(3.0)	
23	(300)	(3.7)					5.4	(3.0)	

Time: 45.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 21

Schwarzenburg, Switzerland (46.8°N, 7.3°E)								December 1955	
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2	
00	300	3.2						3.1	
01	300	3.3						3.1	
02	300	3.5						3.1	
03	280	3.5						3.2	
04	250	3.4						3.3	
05	240	3.2						3.5	
06	220	3.0						3.6	
07	250	2.8						3.5	
08	200	4.8						3.65	
09	200	6.9			100	2.1		4.0	
10	200	8.0			100	2.5		3.8	
11	200	9.2			100	2.7		3.8	
12	200	9.0			100	2.8		3.8	
13	200	8.5			100	2.8		3.8	
14	200	9.0			100	2.7		3.7	
15	200	8.6			100	2.5		3.8	
16	200	7.4			100	2.0		3.8	
17	200	6.4			---	---		3.8	
18	200	4.8						3.6	
19	200	4.2						3.6	
20	200	3.6						3.6	
21	245	3.0						3.5	
22	300	2.8						3.15	
23	300	3.1						3.1	

Time: 15.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 23

Watheroo, W. Australia (30.3°S, 115.9°E)								December 1955	
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2	
00	270	6.8					3.0	2.9	
01	260	6.8					2.8	3.0	
02	260	6.2					2.9	2.9	
03	260	5.7					2.9	2.8	
04	255	5.2					3.0	2.9	
05	270	5.0					3.0	2.9	
06	250	5.8	255	3.5		1.3	3.0	3.0	
07	320	6.4	230	4.5		2.1	3.0	3.0	
08	340	7.0	220	4.9		3.2	3.0	2.9	
09	330	7.6	220	5.2		3.5	2.9	2.85	
10	350	8.2	205	5.3		3.7	3.0	2.8	
11	365	8.5	200	5.3		3.8	3.0	2.8	
12	350	8.7	210	5.4		3.8	2.9	2.8	
13	350	9.2	220	5.3		3.9	2.9	2.8	
14	330	9.0	220	5.3		3.8	2.9	2.8	
15	330	8.8	225	5.2		3.7	2.9	2.8	
16	320	9.1	225	5.0		3.4	3.0	2.9	
17	300	8.5	230	4.5		3.0	3.0	2.9	
18	275	8.2	250	4.0		2.5	3.0	3.0	
19	260	7.5				1.7	3.0	3.0	
20	250	7.3					3.0	3.0	
21	250	7.0					2.9	2.9	
22	270	6.9					2.9	2.8	
23	270	6.8					2.9	2.8	

Time: 120.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 45 seconds.

Table 20

Adak, Alaska (51.9°N, 176.6°W)								December 1955	
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2	
00	<310	(2.6)					<1.4	2.8	
01	320	(2.7)					<1.1	2.8	
02	320	2.7					<1.4	2.8	
03	320	2.7					<1.1	2.8	
04	310	2.7						2.8	
05	300	2.8					<1.4	2.9	
06	260	2.7					<1.2	3.1	
07	250	3.1						3.0	
08	230	5.7						3.3	
09	230	7.6	---	---	120	(2.3)		3.3	
10	230	8.8	---	---	120	2.5		3.3	
11	240	9.1	240	---	130	2.6		3.3	
12	230	8.9	---	---	130	2.8		3.4	
13	240	8.8	---	---	120	(2.7)		3.3	
14	230	8.8	---	---	130	(2.5)		3.3	
15	220	7.3	---	---	---	---		3.5	
16	220	5.8						3.3	
17	220	4.2					<1.8	3.4	
18	240	2.7					<1.4	3.3	
19	250	2.4					<2.0	3.3	
20	260	2.4					<1.4	3.25	
21	(310)	2.2					<2.0	(2.8)	
22	320	2.4					<1.5	2.8	
23	300	(2.5)					<1.3	2.9	

Time: 180.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 22

Baguio, P. I. (16.4°N, 120.6°E)								December 1955	
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2	
00	220	7.7					<1.3	3.2	
01	220	7.0					1.7	3.25	
02	220	6.4						3.4	
03	210	4.8						3.3	
04	220	3.4						3.1	
05	250	3.0						3.0	
06	290	3.7					<1.3	2.8	
07	250	7.3			120	2.1		3.1	
08	250	10.2	230	---	110	2.8		3.1	
09	290	12.0	220	---	110	3.1	5.0	3.0	
10	290	12.2	210	---	110	3.4	6.8	2.9	
11	300	12.2	200	---	110	3.5	6.8	2.7	
12	300	12.2	200	---	110	3.5	6.0	2.6	
13	(320)	12.3	200	---	110	3.5	6.1	2.6	
14	(300)	12.2	200	---	110	3.3	6.0	2.6	
15	(290)	12.0	210	---	110	3.0	4.1	2.7	
16	240	12.3	220	---	110	2.7	3.6	2.7	
17	250	12.0			120	1.9	3.2	2.9	
18	250	11.6					2.5	2.9	
19	250	10.9					2.1	2.9	
20	240	10.6					2.5	2.9	
21	230	10.5					3.3	3.0	
22	220	9.9					1.7	3.2	
23	220	8.8					<1.5	3.2	

Time: 120.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 24

De Bilt, Holland (52.1°N, 5.2°E)								November 1955	
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2	
00	<300	3.0						2.5	
01	<300	3.1						2.6	
02	<300	2.9						2.5	
03	<300	2.7						2.6	
04	<250	2.4						2.8	
05	<250	2.4						2.9	
06	250	2.5						2.8	
07	225	4.3						3.3	
08	215	6.4	---	---	120	1.9		3.5	
09	215	>7.2	225	3.2	110	2.3	2.2	3.4	
10	220	7.9	220	3.4	105	2.5	2.2	3.4	
11	225	>8.0	210	3.4	105	2.7	2.4	(3.25)	
12	225	>8.3	215	3.6	105	2.8		(3.3)	
13	220	(8.2)	225	3.4	115	2.7		(3.2)	
14	225	(8.0)	---	---	115	2.4		(3.4)	
15	220	(7.4)			140	1.9		(3.3)	
16	205	6.8						3.3	
17	215	6.0						3.2	
18	220	5.1						3.2	
19	225	3.8						3.2	
20	<250	3.0						2.9	
21	<275	2.8						2.6	
22	(275)	2.8						2.5	
23	---	3.0						2.5	

Time: 0.0°.

Sweep: 0.8 Mc to 20.0 Mc in 20 seconds.

Table 25

Wakkanai, Japan (45.4°N, 141.7°E)

November 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	3.6						
01	310	3.6					2.3	
02	300	3.7					2.3	
03	310	3.6					2.3	
04	290	3.7					2.2	
05	260	3.7						
06	260	3.8						
07	230	6.6						
08	230	7.8						
09	230	8.5						
10	250	9.3					3.9	
11	240	9.9						
12	250	9.6						
13	240	8.8						
14	240	8.5						
15	230	8.3						
16	220	7.2						
17	230	5.3					2.0	
18	250	4.2					2.3	
19	260	3.6						
20	290	3.4						
21	300	3.4						
22	330	3.4						
23	330	3.5						

Time: 135.0°E.

Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 26

Akita, Japan (39.7°N, 140.1°E)

November 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	330	3.6					2.5	
01	320	3.6					2.5	
02	310	3.6					2.5	
03	300	3.6					2.5	
04	290	3.7					2.6	
05	260	3.5					2.5	
06	260	3.9					2.5	
07	240	6.8						
08	250	8.2						
09	250	8.7						
10	260	8.7					4.0	
11	260	9.2					4.2	
12	260	9.0					4.0	
13	270	9.0					3.5	
14	260	8.8					3.4	
15	250	8.3					3.4	
16	240	7.4					3.4	
17	230	5.6					3.0	
18	260	4.5					2.6	
19	260	3.8					2.5	
20	270	3.6					2.4	
21	300	3.5					2.5	
22	320	3.5					2.5	
23	340	3.5					2.5	

Time: 135.0°E.

Sweep: 0.85 Mc to 22.0 Mc in 2 minutes.

Table 27

Tokyo, Japan (35.7°N, 139.5°E)

November 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	3.5					2.8	
01	300	3.5					2.8	
02	280	3.6					2.2	
03	260	3.7					2.6	
04	240	3.7					2.3	
05	260	3.2					1.9	
06	240	4.0					3.1	
07	230	7.0			130	1.9	2.7	3.5
08	230	8.5	230	---	110	2.6	3.3	3.4
09	240	9.5	230	4.3	110	2.8	3.6	3.4
10	230	10.0	230	4.6	110	3.1	4.0	3.4
11	240	9.9	220	4.6	110	3.2	4.2	3.3
12	240	9.7	220	4.5	110	3.2	4.0	3.2
13	250	10.4	220	4.4	110	3.2	4.0	3.2
14	240	10.0	230	4.1	120	3.0	3.9	3.3
15	230	9.4	230	3.7	120	2.6	3.5	3.4
16	220	7.6	---	---	130	2.0	3.0	3.4
17	210	6.2					2.1	3.4
18	230	4.4					1.7	3.2
19	240	4.2					1.8	3.1
20	240	3.9						3.1
21	250	3.4						3.0
22	280	3.4						2.9
23	310	3.4						2.8

Time: 135.0°E.

Sweep: 1.0 Mc to 17.2 Mc in 2 minutes.

Table 28

Yamagawa, Japan (31.2°N, 130.6°E)

November 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	3.6					2.3	
01	300	3.6					2.3	
02	290	3.5					2.2	
03	280	3.7					2.2	
04	260	3.8					2.2	
05	260	3.0					2.3	
06	280	2.9					2.2	
07	240	5.8						
08	240	8.0					3.3	
09	250	9.3						
10	240	10.1					3.8	
11	250	10.2					4.7	
12	250	10.1					4.6	
13	260	10.7					4.2	
14	260	11.3					4.8	
15	240	10.5					4.2	
16	240	10.0					3.8	
17	220	8.1					3.6	
18	210	6.4					3.4	
19	240	5.4					3.1	
20	240	5.7					2.3	
21	240	5.0					2.2	
22	250	4.0					2.2	
23	300	3.6						

Time: 135.0°E.

Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 29

Baguio, P. I. (16.4°N, 120.6°E)

November 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	220	8.2					<1.6	3.3
01	220	7.5					1.2	3.2
02	230	7.2					<1.3	3.3
03	210	5.8					1.6	3.35
04	220	4.2					<1.2	3.1
05	240	3.3					<1.2	3.1
06	270	4.6					1.8	3.0
07	240	8.1			110	2.3	3.2	3.25
08	270	10.2	230	---	110	2.9	4.0	3.2
09	280	11.8	220	---	110	3.2	5.0	3.1
10	280	12.2	210	---	110	3.4	4.8	3.0
11	300	12.8	200	---	110	3.5	5.2	2.7
12	300	12.4	200	---	110	3.5	6.1	2.6
13	300	11.7	200	---	110	3.4	4.6	2.6
14	300	12.0	200	---	110	3.2	5.4	2.6
15	240	12.0	210	---	110	3.0	4.5	2.7
16	240	12.5	---	---	110	2.5	4.5	2.7
17	250	12.5					4.0	2.9
18	260	11.6					3.6	2.9
19	250	11.5					<1.6	2.9
20	240	11.2					3.3	2.9
21	240	11.4					2.6	3.0
22	220	10.8					2.0	3.25
23	220	9.4					2.0	3.3

Time: 120.0°E.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 30

Leopoldville, Belgian Congo (4.4°S, 15.2°E)

November 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M2000)F2
00	250	9.1						2.3
01	240	8.2						2.3
02	230	7.2						2.4
03	215	5.8						2.5
04	230	4.4					1.6	2.5
05	240	6.0	---	---	130	2.0	2.7	2.55
06	250	7.7	230	---	110	2.7	3.1	2.5
07	290	8.6	225	---	110	3.2	3.6	2.2
08	305	9.6	220	---	110	3.5	4.0	2.0
09	(400)	10.3	215	5.0	110	3.7		1.9
10	450	11.0	210	5.0	110	3.7	3.8	1.9
11	435	11.5	210	5.0	110	3.8		2.0
12	410	12.6	205	5.0	110	3.7		2.0
13	400	12.9	220	5.0	110	3.7	3.8	2.0
14	355	13.4	230	5.4	110	3.3	4.2	2.1
15	330	13.6	230	---	110	3.0	3.6	2.1
16	310	13.6	240	---	120	2.3	3.2	2.1
17	265	13.2	---	---			3.0	2.1
18	300	13.1					2.8	2.1
19	285	>13.5					1.8	2.1
20	255	>13.8						2.3
21	230	>14.2						2.5
22	220	13.4						2.5
23	210	10.0						2.4

Time: 0.0°.

Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 31

Elisabethville, Belgian Congo (11.6°S, 27.5°E)								November 1955
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M2000)F2
00	250	7.8						2.25
01	235	6.9						2.3
02	230	5.3						2.4
03	230	4.3						2.4
04	240	5.7			135	1.7		2.5
05	245	7.3	230	---	110	2.6		2.5
06	280	8.0	225	---	105	3.1		2.3
07	300	9.0	220	---	110	3.4		2.1
08	320	10.0	215	5.0	110	3.7		2.1
09	340	10.7	210	5.0	105	3.8		2.0
10	340	11.3	---	5.1	110	3.8		2.0
11	330	>11.6	---	5.0	110	3.8		2.0
12	330	>11.6	---	4.9	110	3.7		2.05
13	330	11.7	220	---	110	3.5	3.8	2.1
14	310	>11.7	225	---	110	3.1	3.4	2.1
15	285	11.9	240	---	110	2.6	3.2	2.1
16	255	11.7					2.8	2.2
17	250	11.2					2.6	2.1
18	255	11.3					2.2	2.1
19	255	11.2					1.8	2.2
20	245	11.0						2.2
21	250	10.6						2.2
22	240	9.7						2.3
23	230	8.6						2.2

Time: 0.0°.

Sweep: 1.0 Mc to 16.0 Mc in 7 seconds.

Table 33

Godhavn, Greenland (69.2°N, 53.5°W)								October 1955
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	(3.0)					<1.6	---
01	270	(2.9)					<1.6	(2.9)
02	290	(2.8)					2.8	(2.8)
03	280	(2.6)					<2.1	(2.8)
04	280	(2.7)					<2.0	---
05	290	(2.7)					3.3	---
06	290	(2.7)					3.0	(2.8)
07	270	(2.7)	---	---			<2.0	---
08	270	(3.8)	260	---	---		2.8	---
09	260	(5.4)	250	---	120	1.8	<2.4	---
10	260	(5.8)	240	---	120	2.0	<2.5	(3.3)
11	(260)	(6.2)	240	(3.4)	120	2.2	<2.5	(3.3)
12	260	(6.0)	230	3.7	120	2.2		(3.2)
13	250	(5.5)	230	(3.6)	120	2.1	2.5	(3.2)
14	250	(5.2)	240	3.6	120	2.0	<2.5	(3.2)
15	250	(5.2)	240	---	120	2.0	3.3	---
16	240	(5.0)	250	---	---		2.5	(3.2)
17	240	(4.6)	240	---			4.8	(3.0)
18	250	(4.8)					5.4	(3.0)
19	240	(4.6)					5.6	---
20	240	(4.2)					4.4	---
21	240	(3.7)					4.4	---
22	240	(3.4)					3.5	(2.95)
23	260	(3.0)					3.2	(3.0)

Time: 45.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 35

Akita, Japan (39.7°N, 140.1°E)								October 1955
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	4.0					3.0	
01	310	4.0					2.7	
02	310	4.0					2.8	
03	300	4.1					2.8	
04	270	4.2					3.0	
05	280	4.0					2.6	
06	250	5.6					2.7	
07	240	7.2					3.0	
08	250	8.1						
09	260	8.4					4.2	
10	270	8.5					4.2	
11	270	8.8					4.0	
12	280	9.0					3.5	
13	280	8.7					3.5	
14	280	8.5					3.5	
15	260	8.3					3.4	
16	250	8.1					3.5	
17	250	6.7					3.5	
18	250	5.8					3.5	
19	260	4.8					3.5	
20	280	4.5					3.1	
21	300	4.0					3.4	
22	300	4.1					3.0	
23	310	4.0					2.6	

Time: 135.0°E.

Sweep: 0.85 Mc to 22.0 Mc in 2 minutes.

Table 32

Resolute Bay, Canada (74.7°N, 94.9°W)								October 1955
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.4					<1.7	3.1
01	260	3.4					<1.1	3.1
02	260	3.2						3.0
03	240	3.6						3.1
04	270	3.3			---	---	<1.1	3.05
05	270	3.0			---	---		3.2
06	250	3.5			---	---	<1.2	3.1
07	250	4.0			115	1.5		3.1
08	240	4.3			110	1.6		3.1
09	240	5.0			110	1.7		3.1
10	240	5.0			110	1.8		3.1
11	250	5.2			110	1.9		3.1
12	250	5.2			105	1.9		3.1
13	260	5.0			110	2.0		3.2
14	250	5.2			110	1.8		3.2
15	240	5.1			110	1.8		3.1
16	240	5.1			105	1.6		3.1
17	240	5.0			---	1.5		3.2
18	240	5.0			---	---	<1.4	3.1
19	240	4.6			---	---	<1.4	3.1
20	240	4.2					2.0	3.1
21	250	4.1					<1.4	3.1
22	250	4.1					<1.3	3.0
23	250	3.6					<1.2	3.1

Time: 90.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 34

Wakkanai, Japan (45.4°N, 141.7°E)								October 1955
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	4.2					2.3	
01	300	4.3						
02	300	4.2					2.2	
03	290	4.3					2.3	
04	270	4.3					2.3	
05	260	4.1					2.2	
06	240	5.2						
07	240	7.0						
08	240	8.0						
09	250	8.6						
10	250	9.0						
11	260	8.9						
12	260	9.0						
13	260	8.5						
14	260	8.2						
15	250	8.2						
16	240	7.8					2.5	
17	230	7.0					2.8	
18	250	5.7					3.3	
19	260	5.3					2.6	
20	260	5.1					2.3	
21	270	4.8						
22	300	4.4						
23	300	4.1						

Time: 135.0°E.

Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 36

Tokyo, Japan (35.7°N, 139.5°E)								October 1955
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	4.0					2.8	2.9
01	290	4.0					3.0	2.8
02	280	4.0					2.4	2.9
03	260	4.0					2.2	3.0
04	240	4.0					3.0	3.1
05	260	3.8					2.0	3.0
06	230	5.9	240	---	---	1.6	2.2	3.4
07	220	7.5	220	3.3	120	2.2	3.3	3.5
08	230	8.6	220	4.0	110	2.7	3.5	3.5
09	240	8.5	220	4.5	110	3.0	3.8	3.4
10	250	9.0	200	4.5	110	3.1	4.1	3.25
11	250	9.7	210	4.6	110	3.2	4.0	3.3
12	260	10.0	220	4.8	110	3.2	3.8	3.2
13	260	9.8	230	4.8	110	3.2	3.9	3.2
14	260	9.5	230	4.6	110	3.1	3.6	3.2
15	240	9.4	240	4.5	110	2.8	3.8	3.3
16	230	9.1	230	3.4	120	2.3	3.8	3.4
17	230	7.9	---	---	---	---	3.5	3.4
18	230	6.0					3.5	3.3
19	250	4.8					3.2	3.2
20	260	4.4					3.4	3.0
21	270	4.2					2.9	3.0
22	290	4.0					2.2	2.9
23	300	3.9					3.0	2.9

Time: 135.0°E.

Sweep: 1.0 Mc to 17.2 Mc in 2 minutes.

Table 37

Yamagawa, Japan (31.2°N, 130.6°E)

October 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	4.2					2.3	
01	300	4.1					2.3	
02	290	4.1					2.3	
03	280	4.1					2.3	
04	250	4.0					2.3	
05	260	3.6					2.3	
06	260	3.9					2.3	
07	230	7.0						
08	230	7.8				3.6		
09	240	8.6				4.7		
10	250	9.5				5.9		
11	250	10.0				4.9		
12	270	10.9				3.8		
13	280	11.2				5.0		
14	280	11.6				5.7		
15	260	11.2				4.2		
16	240	10.8				4.1		
17	240	9.6				3.8		
18	230	8.3				3.3		
19	220	6.2				3.2		
20	250	5.5				3.1		
21	260	5.0				3.2		
22	270	4.6				2.4		
23	290	4.3				3.0		

Time: 135.0°E.

Sweep: 1.0 Mc to 22.0 Mc in 1 minute.

Table 39

Barotonga I., (21.3°S, 159.8°W)

October 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	(7.8)						(3.1)
01	250	(7.3)						3.25
02	240	6.9						3.1
03	260	5.4						3.0
04	280	5.0						2.9
05	280	5.1						2.9
06	250	6.7			130	1.7	1.8	3.35
07	250	8.2	240	4.0	115	2.5	2.9	3.5
08	270	(8.6)	230	4.5	110	3.0	3.7	(3.3)
09	270	9.2	220	5.0	105	3.4		3.3
10	290	9.9	220	5.0	105	3.5	3.7	3.2
11	300	9.8	210	5.0	105	3.7	3.9	3.2
12	290	11.1	210	5.0	105	3.7	3.8	3.1
13	300	10.8	200	5.0	105	3.7	3.8	3.1
14	300	10.3	220	5.0	105	3.5	3.8	3.1
15	300	(9.8)	230	5.0	105	3.4	3.9	3.0
16	300	10.0	240	4.8	105	3.0	3.7	(3.05)
17	280	(9.4)	250	4.2	105	2.5	3.9	(3.1)
18	270	(9.0)			---	---	3.6	(3.3)
19	250	(9.0)					2.9	(3.0)
20	260	(9.0)					3.0	(3.2)
21	270	(8.3)					2.0	(3.1)
22	280	(8.5)					2.0	(3.1)
23	280	(7.6)					1.8	(3.1)

Time: 157.5°W.

Sweep: 1.5 Mc to 20.0 Mc in 5 minutes, manual operation.

Table 41

Capetown, Union of S. Africa (34.2°S, 18.3°E)

October 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<270	3.6						2.9
01	270	3.7						2.9
02	260	3.7						2.9
03	250	3.6						2.9
04	260	3.6						2.8
05	<260	3.6						2.9
06	250	4.5						3.0
07	240	6.2	230	---	130	2.1		3.3
08	260	7.3	230	4.0	120	2.7		3.2
09	280	8.0	220	4.5	110	3.0		3.05
10	300	8.7	220	4.7	110	3.3		2.9
11	300	9.4	210	4.9	110	3.5		2.9
12	300	10.0	210	4.9	110	3.6		2.8
13	310	10.3	210	4.9	110	3.6		2.8
14	300	10.5	220	4.9	110	3.5		2.9
15	300	10.4	210	4.8	110	3.4		2.9
16	280	10.2	230	4.4	110	3.2		2.9
17	270	9.8	230	4.0	120	2.8		3.0
18	250	9.6	240	3.2	120	2.2	2.7	3.1
19	230	8.8			---	---		3.2
20	220	7.3						3.2
21	230	5.6						3.1
22	250	4.5						3.0
23	<260	4.0						3.0

Time: 30.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 38

Nairobi, Kenya (1.3°S, 36.8°E)

October 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	190	>9.0						(3.4)
01	<230	>6.6						2.9
02	260	6.4					2.2	2.8
03	260	6.4					1.7	3.0
04	250	6.6					2.4	3.1
05	230	5.5					2.2	3.3
06	230	5.1					2.7	3.4
07	250	7.5	240	---	---	---	3.3	3.4
08	260	8.6	230	4.5	110	2.9	3.4	3.3
09	270	9.0	220	4.6	110	3.2		3.2
10	300	9.6	---	4.8	110		(4.9)	2.9
11	310	10.1	---	5.0	100	3.6	(4.9)	2.9
12	300	10.8	---	5.0	100	---		2.8
13	(320)	11.0	---	(5.0)	100	---		2.7
14	340	11.8	---	---	110	---	(4.2)	2.7
15	330	12.0	200	4.8	100	3.3		2.7
16	310	12.0	210	4.6	110	3.0		2.7
17	(300)	11.9	240	---	110	2.6		2.7
18	(280)	>11.8	260	---	---	---	3.1	---
19	310	>11.6					2.6	---
20	310	>11.8						---
21	280	---						---
22	230	>13.8						---
23	200	>13.4						(3.7)

Time: 45.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 40

Johannesburg, Union of S. Africa (26.2°S, 28.1°E)

October 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	<260	4.2						2.9
01	<250	4.3						3.0
02	230	3.9						3.0
03	---	3.5						2.9
04	---	3.4						2.9
05	---	3.4						3.0
06	230	5.5			130	1.8		3.3
07	250	7.0	230	3.8	110	2.5		3.3
08	270	8.1	220	4.4	110	2.9		3.2
09	280	8.7	210	4.8	110	3.2		3.1
10	290	8.9	200	4.9	110	3.4		2.9
11	300	9.5	200	5.0	110	3.6		2.9
12	300	10.0	200	5.0	110	3.6		2.9
13	300	10.1	210	5.0	110	3.6		2.9
14	300	10.1	200	4.9	110	3.5	3.9	2.9
15	300	10.2	210	4.7	110	3.3	3.9	2.9
16	280	10.2	220	4.4	110	3.0	3.8	3.0
17	260	10.0	220	3.6	110	2.4	3.2	3.0
18	230	9.7	---	---	---	---	2.3	3.1
19	220	8.5						3.1
20	230	7.1						3.0
21	230	5.5						3.0
22	<250	5.0						3.0
23	<250	4.6						3.0

Time: 30.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 42

Christchurch, New Zealand (43.6°S, 172.8°E)

October 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(280)	4.9						2.7
01	280	4.7						2.8
02	280	4.3						2.8
03	270	3.9						2.9
04	280	3.5						2.8
05	270	3.4					E	2.9
06	280	4.7	260	---		1.8		3.1
07	320	5.4	240	3.8		2.4		3.1
08	300	6.0	240	4.3		2.7		3.1
09	310	6.5	230	4.6		3.0		3.0
10	310	6.8	230	4.7		3.2		3.0
11	320	6.9	220	4.8		3.3		3.0
12	320	7.4	230	4.8		3.3		3.0
13	310	7.2	230	4.8		3.3		3.0
14	310	7.1	230	4.7		3.2		3.0
15	300	7.0	240	4.5		2.9		3.0
16	280	6.8	240	4.1		2.6		3.0
17	280	6.7	260	3.4		2.2		3.0
18	270	7.0	---	---		1.8		3.0
19	260	7.3				---		2.9
20	270	6.9						2.8
21	270	6.0						2.8
22	280	5.7						2.7
23	280	5.5						2.75

Time: 172.5°E.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 43

Point Barrow, Alaska (71.3°N, 156.8°W) September 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	---	---	---	---	---	---	6.8
01	(270)	---	---	---	---	---	5.1
02	(280)	---	---	---	---	---	6.4
03	300	---	---	---	---	---	5.2
04	(280) (3.8)	---	---	---	---	---	3.9
05	(290)	---	---	---	---	---	3.4
06	---	---	---	---	---	---	4.0
07	---	(3.5)	---	---	---	---	3.2
08	(360)	(4.3)	220	(3.5)	---	---	4.0 (3.0)
09	380	4.1	220	3.6	---	2.2	4.4 2.9
10	(400)	(4.2)	(230)	(3.5)	110	2.5	4.0 (3.2)
11	400	(4.3)	(230)	(3.6)	110	(2.5)	3.1 3.0
12	310	4.6	210	3.7 (100)	(2.5)	3.0	3.2
13	(340)	4.6	220	(3.7)	100	(2.6)	2.7 3.05
14	(340)	4.8	230	(3.8)	110	2.5	3.0
15	310	4.8	230	(3.7)	110	2.4	2.0 3.1
16	300	4.8	240	(3.7)	110	(2.3)	<1.8 3.05
17	270	(4.8)	240	---	120	(2.1)	2.3 (3.15)
18	270	(4.5)	---	---	---	---	2.8 (3.2)
19	(260)	(3.5)	---	---	---	---	3.4 (3.1)
20	(280)	---	---	---	---	---	4.3
21	(310)	---	---	---	---	---	5.4
22	---	---	---	---	---	---	6.0
23	(260)	---	---	---	---	---	6.0

Time: 150.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 45*

Inverness, Scotland (57.4°N, 4.2°W) September 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	300	(2.7)	---	---	---	---	(2.7)
01	305	(2.5)	---	---	---	---	(2.7)
02	315	(2.3)	---	---	---	---	(2.7)
03	320	(2.2)	---	---	---	---	2.3 (2.6)
04	310	(2.0)	---	---	---	---	(2.7)
05	280	(2.2)	---	---	---	---	(2.9)
06	255	3.2	---	---	125	1.6	2.2 3.0
07	275	4.0	220	3.4	120	1.9	3.1
08	320	4.5	220	3.7	115	2.3	2.8 (3.2)
09	335	4.8	210	3.9	110	2.6	(3.2)
10	330	5.3	210	4.1	110	2.8	3.3
11	330	5.5	210	4.2	110	2.9	3.1
12	325	5.6	210	4.2	110	2.9	3.1
13	315	5.6	215	4.3	110	2.9	3.1
14	315	5.6	210	4.2	105	2.9	3.1
15	295	5.7	220	4.0	110	2.7	3.1
16	295	5.7	230	3.8	110	2.5	3.1
17	270	5.8	235	(3.5)	120	2.2	2.4 3.1
18	255	5.8	---	---	120	1.9	3.1
19	250	5.5	---	---	---	---	3.1
20	245	5.1	---	---	---	---	3.0
21	260	4.5	---	---	---	---	2.9
22	270	3.9	---	---	---	---	3.0
23	290	3.1	---	---	---	---	(2.8)

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.

*Average values except foF2 and fEs, which are median values.

Table 47*

Slough, England (51.5°N, 0.6°W) September 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	285	3.6	---	---	---	---	2.5 2.75
01	290	3.6	---	---	---	---	2.6 2.75
02	290	3.3	---	---	---	---	2.6 2.7
03	290	3.2	---	---	---	---	2.6 2.75
04	285	3.1	---	---	---	---	2.6 2.75
05	275	2.8	---	---	---	---	3.0 2.85
06	275	3.8	245	3.0	140	1.6	3.2 3.1
07	300	4.6	230	3.5	120	2.1	3.3 3.15
08	310	5.1	225	3.9	115	2.5	3.8 3.1
09	320	5.4	220	4.2	115	2.8	4.2 3.05
10	310	5.9	220	4.3	115	2.9	4.0 3.15
11	310	6.0	210	4.4	115	3.1	4.4 3.1
12	310	6.1	215	4.5	115	3.1	4.6 3.05
13	305	6.1	215	4.4	115	3.1	3.8 3.1
14	295	6.3	225	4.3	115	3.0	3.8 3.1
15	290	6.2	225	4.2	115	2.8	2.9 3.1
16	280	6.2	235	3.9	115	2.6	3.4 3.1
17	270	6.3	240	3.4	120	2.1	3.4 3.1
18	250	6.5	---	---	(125)	(1.8)	3.0 3.15
19	250	6.0	---	---	---	---	2.8 3.05
20	245	5.6	---	---	---	---	2.7 3.05
21	255	4.9	---	---	---	---	2.6 3.0
22	265	4.4	---	---	---	---	2.6 2.85
23	280	3.7	---	---	---	---	2.6 2.75

Time: 0.0°.

Sweep: 0.55 Mc to 16.5 Mc in 5 minutes.

*Average values except foF2 and fEs, which are median values.

Table 44

Godhavn, Greenland (69.2°N, 53.5°W) September 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	260	(3.1)	---	---	---	---	3.0 (2.9)
01	280	(3.0)	---	---	---	---	<1.4 (2.9)
02	290	(2.9)	---	---	---	---	2.6
03	(280)	(2.5)	---	---	---	---	2.9 (2.85)
04	(280)	(2.6)	---	---	---	---	3.2 (2.7)
05	280	(2.8)	---	---	---	---	<2.2 (3.0)
06	250	(3.4)	250	3.0	---	---	<2.7 (3.15)
07	(290)	(3.7)	250	3.0	---	---	<2.4 (2.85)
08	(340)	(4.2)	240	3.3	120	(2.2)	2.8
09	(350)	(4.4)	240	3.5	(120)	(2.3)	2.4 (3.3)
10	(330)	(4.7)	230	(3.6)	(120)	(2.6)	<3.1 3.1
11	340	5.1	220	3.8	(110)	2.6	3.0 3.0
12	(330)	(5.0)	220	3.8	110	2.6	(3.0)
13	(350)	(4.8)	220	3.9	110	2.5	4.2 (3.0)
14	(320)	(4.9)	220	(3.9)	110	2.4	4.4 (3.2)
15	300	(4.8)	230	(3.8)	110	2.4	3.5 (3.0)
16	(280)	(4.8)	230	(3.6)	(120)	(2.3)	5.6 (3.2)
17	250	(4.6)	230	(3.5)	120	2.1	4.8 3.3
18	(250)	(4.6)	240	---	120	1.8	5.4 (3.2)
19	250	(4.3)	240	---	---	---	5.4 (3.15)
20	250	(4.0)	---	---	---	---	4.6 (3.1)
21	240	(3.7)	---	---	---	---	3.7 (3.0)
22	250	(3.5)	---	---	---	---	2.0 (3.0)
23	250	(3.4)	---	---	---	---	3.4 (2.9)

Time: 45.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 46

Lindau/Harz, Germany (51.6°N, 10.1°E) September 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	265	3.8	---	---	---	---	2.4 3.0
01	275	3.6	---	---	---	---	2.3 3.0
02	275	3.5	---	---	---	---	2.2 2.9
03	275	3.4	---	---	---	---	1.9 2.9
04	275	3.3	---	---	---	---	2.0 2.9
05	260	3.0	---	---	---	---	2.1 3.1
06	250	3.6	240	---	---	E	2.2 3.2
07	260	4.5	230	---	110	2.0	3.1 3.4
08	270	5.1	215	3.9	100	2.4	3.4 3.4
09	280	5.5	210	4.0	100	2.7	3.7 3.3
10	280	5.8	200	4.2	100	2.9	3.8 3.4
11	280	6.2	200	4.3	100	3.0	3.8 3.4
12	285	6.4	200	4.3	100	3.0	3.8 3.3
13	280	6.4	200	4.4	100	3.1	3.8 3.3
14	275	6.4	205	4.3	100	3.0	3.5 3.3
15	270	6.1	210	4.3	100	2.8	3.5 3.35
16	255	6.2	220	---	100	2.6	2.9 3.4
17	250	6.2	230	---	100	2.3	2.8 3.3
18	240	6.4	240	---	115	1.8	2.8 3.3
19	240	6.4	---	---	---	E	2.8 3.2
20	235	6.0	---	---	---	---	2.8 3.2
21	240	5.4	---	---	---	---	2.6 3.2
22	235	4.8	---	---	---	---	2.6 3.1
23	250	4.0	---	---	---	---	2.3 3.0

Time: 15.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 4 minutes.

Table 48*

Singapore, British Malaya (1.3°N, 103.8°E) September 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	215	6.9	---	---	---	---	3.1
01	245	5.9	---	---	---	---	1.8 2.9
02	250	5.5	---	---	---	---	2.0 2.9
03	255	5.0	---	---	---	---	2.2 3.0
04	245	4.2	---	---	---	---	2.3 3.1
05	250	3.4	---	---	---	---	2.2 3.2
06	260	4.8	---	---	---	---	2.4 3.1
07	255	7.9	240	---	125	2.4	3.7 3.1
08	(285)	9.2	230	---	115	3.0	4.2 3.0
09	305	9.9	215	---	115	3.3	5.2 2.7
10	320	10.4	205	4.7	110	3.5	6.0 2.6
11	345	10.5	200	4.9	110	3.7	5.9 (2.4)
12	365	10.2	200	4.9	110	3.7	5.6 2.3
13	355	10.0	200	4.8	110	3.7	5.5 2.3
14	340	10.0	200	4.7	110	3.5	5.2 (2.4)
15	---	10.1	200	---	110	3.3	4.6 2.3
16	---	10.5	230	---	115	3.0	4.4 2.4
17	---	10.7	245	---	125	2.4	4.0 2.5
18	255	10.8	---	---	---	---	3.4 2.5
19	295	10.8	---	---	---	---	3.5 2.6
20	270	10.6	---	---	---	---	3.6 2.9
21	240	10.9	---	---	---	---	3.0 3.1
22	220	9.6	---	---	---	---	2.4 3.2
23	210	8.5	---	---	---	---	3.2

Time: 105.0°E.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.

*Average values except foF2 and fEs, which are median values.

Table 49

Nairobi, Kenya (1.3°S, 36.8°E)							
September 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	200	>9.1					3.6
01	200	5.1					3.3
02	<230	4.7					3.1
03	<250	4.1					2.9
04	<250	4.0					3.0
05	240	3.5				2.0	3.05
06	240	3.6				2.4	3.2
07	250	6.6	240	---	130	---	3.2
08	260	8.0	230	4.4	110	2.8	3.6
09	290	9.0	220	4.6	110	3.2	4.3
10	300	9.9	220	4.7	100	3.4	4.3
11	290	10.5	---	4.9	110	3.6	4.0
12	300	10.6	---	5.0	110	---	(4.0)
13	310	11.1	---	(5.0)	110	---	2.9
14	310	10.9	---	4.9	110	---	2.8
15	310	10.8	190	4.9	110	---	3.9
16	320	10.9	200	4.7	110	3.1	3.7
17	(300)	10.9	240	---	120	2.8	2.8
18	(280)	10.8	250	---			3.0
19	280	>10.8					3.0
20	300	>11.4					(2.8)
21	260	12.0					(3.1)
22	220	13.2					(3.3)
23	200	13.0					(3.55)

Time: 45.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 51

Christchurch, New Zealand (43.6°S, 172.8°E)							
September 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	(280)	3.6					2.8
01	280	3.3					2.9
02	280	3.1					2.9
03	270	2.8					3.0
04	270	2.5					3.05
05	280	2.2				---	2.9
06	270	3.2	---	---	1.3		3.1
07	260	4.4	250	2.9	1.8		3.3
08	280	5.1	240	3.7	2.4		3.3
09	290	5.6	230	4.1	2.7		3.2
10	310	6.2	230	4.3	2.8		3.15
11	300	6.4	240	4.4	3.1		3.15
12	320	6.4	230	4.4	3.2		3.1
13	310	6.4	230	4.4	3.1		3.1
14	300	6.5	230	4.2	2.9		3.2
15	290	6.4	230	4.1	2.7		3.2
16	270	6.0	240	3.7	2.4		3.2
17	260	5.9	260	2.8	1.8		3.2
18	250	5.4	---	---	---		3.1
19	260	5.2	---	---	---		2.8
20	270	4.8					2.9
21	(280)	4.2					2.9
22	(280)	4.0					2.8
23	(280)	3.7					2.8

Time: 172.5°E.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 53*

Slough, England (51.5°N, 0.6°W)							
August 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	270	4.3					2.6
01	270	3.9					3.0
02	285	3.6					3.1
03	285	3.3					2.8
04	285	3.2					3.1
05	300	3.6	260	3.0	(120)	(1.5)	3.4
06	340	4.4	235	3.5	120	2.0	4.1
07	345	4.8	230	3.9	115	2.4	4.7
08	345	5.2	225	4.1	115	2.7	4.7
09	335	5.5	220	4.3	115	2.9	4.7
10	330	5.7	230	4.4	115	3.0	5.0
11	325	5.9	225	4.5	115	3.1	5.0
12	335	5.6	220	4.5	115	3.2	4.7
13	345	5.6	215	4.5	115	3.2	4.8
14	345	5.4	225	4.4	115	3.2	4.5
15	340	5.4	225	4.3	115	3.1	4.4
16	340	5.4	230	4.2	115	2.9	4.3
17	310	5.7	245	3.9	115	2.6	4.2
18	290	6.0	245	3.6	120	2.1	4.5
19	265	6.5	(255)	(3.2)	(125)	(1.8)	4.0
20	255	6.8					3.9
21	250	6.3					3.7
22	250	5.5					3.4
23	270	4.8					3.2

Time: 0.0°.

Sweep: 0.55 Mc to 16.5 Mc in 5 minutes.

*Average values except foF2 and fEs, which are median values.

Table 50

Barotonga I. (21.3°S, 159.8°W)							
September 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	260	(5.9)					(3.2)
01	250	(5.5)					(3.2)
02	250	(4.5)					(3.3)
03	250	3.8					1.8
04	270	3.7					1.8
05	280	3.5					1.8
06	280	3.7	---	---	---	---	2.0
07	270	6.7	250	4.0	120	2.3	2.9
08	270	8.8	230	4.4	105	2.8	3.5
09	270	9.2	230	4.5	105	3.2	3.45
10	270	8.9	230	4.6	105	3.4	3.4
11	270	8.5	220	4.7	105	3.5	3.5
12	280	7.6	210	4.8	105	3.5	3.7
13	300	7.2	220	4.7	105	3.5	4.3
14	300	7.4	220	4.7	105	3.4	4.2
15	300	7.2	230	4.5	105	3.2	4.2
16	290	7.0	240	4.4	105	2.9	3.9
17	270	7.0	240	3.6	---	2.3	3.4
18	270	(8.0)	---	---	---	1.4	2.7
19	260	(7.1)					2.8
20	260	7.0					2.7
21	260	(6.7)					2.4
22	270	(6.8)					2.4
23	260	(6.5)					1.9

Time: 157.5°W.

Sweep: 1.5 Mc to 20.0 Mc in 5 minutes, manual operation.

Table 52*

Inverness, Scotland (57.4°N, 4.2°W)							
August 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	265	(3.8)					2.8
01	275	(3.3)					---
02	285	(2.9)					(2.9)
03	285	(2.6)					---
04	290	2.7					(2.9)
05	285	3.3	(250)	(2.8)	140	(1.3)	(3.0)
06	320	3.9	220	3.3	120	1.9	3.1
07	355	4.3	220	3.8	110	2.3	(3.1)
08	355	4.9	215	4.0	110	2.6	(3.1)
09	345	5.0	210	4.1	110	2.8	3.1
10	345	5.3	215	4.3	105	2.9	3.2
11	355	5.2	210	4.3	105	3.0	3.2
12	350	5.2	205	4.4	105	3.1	3.1
13	350	5.2	205	4.4	105	3.1	3.1
14	350	5.1	205	4.3	105	3.1	3.1
15	365	5.2	215	4.3	110	3.0	3.1
16	345	5.2	220	4.2	110	2.8	2.9
17	325	5.4	225	3.9	110	2.6	3.1
18	300	5.4	240	3.6	120	2.2	2.9
19	275	5.7	240	3.1	130	1.9	2.7
20	250	5.9			(140)	(1.7)	2.3
21	245	(5.9)					---
22	250	5.0					3.0
23	260	(4.6)					(3.0)

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.

*Average values except foF2 and fEs, which are median values.

Table 54*

Singapore, British Malaya (1.3°N, 103.8°E)							
August 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	245	5.0					3.7
01	235	4.6					2.6
02	235	3.3					2.8
03	230	2.9					2.8
04	255	2.2					2.9
05	255	2.0					2.8
06	265	3.2					2.2
07	(255)	6.5	240			2.3	3.5
08	305	8.1	220		120	2.8	5.1
09	320	9.1	210	4.5	110	3.2	5.2
10	340	9.6	200	4.6	(110)	3.4	5.7
11	360	9.3	200	4.7	110	3.6	5.4
12	365	9.3	200	4.7	110	3.6	5.2
13	370	9.2	200	4.7	110	3.6	4.6
14	360	9.3	200	4.6	110	3.5	4.2
15	335	9.6	205	4.4	110	3.3	2.5
16	300	9.5	210		110	2.9	3.9
17	250	9.5	225		115	2.3	3.7
18	245	9.1			150	1.8	3.3
19	250	9.0					3.1
20	245	8.7					3.4
21	230	7.6					3.7
22	225	6.0					3.3
23	230	5.0					3.0

Time: 105.0°E.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.

*Average values except foF2 and fEs, which are median values.

Table 55

Rarotonga I. (21.3°S, 159.8°W)

August 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.4						2.9
01	270	3.3						3.1
02	250	3.5						3.1
03	250	3.5					1.8	3.4
04	260	3.0					1.8	3.1
05	270	2.5					1.8	3.1
06	280	2.5					2.3	3.05
07	250	4.9	250	3.0	130	1.6	3.0	3.4
08	260	5.9	240	3.9	110	2.5	3.4	3.5
09	280	7.0	240	4.3	105	3.0	3.7	3.4
10	280	7.1	230	4.4	105	3.2	3.9	3.4
11	270	6.7	230	4.4	100	3.3	3.8	3.5
12	280	6.5	210	4.5	100	3.4	3.9	3.5
13	280	6.4	210	4.5	100	3.4	4.1	3.4
14	280	6.5	220	4.4	100	3.3	4.3	3.3
15	280	6.7	230	4.3	100	3.1	4.0	3.4
16	280	6.5	240	4.1	100	2.7	3.9	3.3
17	260	6.8	250	3.5	(120)	2.2	3.9	3.3
18	250	6.6					3.4	3.3
19	240	(5.5)					3.0	(3.2)
20	250	4.4					2.5	3.1
21	260	4.0					3.0	3.0
22	250	4.1					2.6	3.0
23	280	3.5					2.0	3.0

Time: 157.5°W.

Sweep: 1.5 Mc to 20.0 Mc in 5 minutes, manual operation.

Table 56*

Falkland Is. (51.7°S, 57.8°W)

August 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	2.6					2.6	2.8
01	300	2.6					3.0	2.8
02	295	2.6					3.0	2.9
03	285	2.5					3.0	3.0
04	270	2.6					2.9	3.0
05	245	2.6					3.7	3.2
06	225	2.4					3.0	3.3
07	230	3.7			165	1.5	3.1	3.5
08	220	4.6			130	1.8	>3.1	3.7
09	225	5.1	220	3.1	120	2.3	5.4	3.7
10	235	5.0	220	(3.5)	115	2.6	4.9	3.6
11	255	5.6	230	3.9	115	2.7	5.5	3.5
12	250	5.8	225	3.9	115	2.7	5.4	3.4
13	245	5.6	230	3.9	115	2.7	5.6	3.6
14	240	5.6	220	3.7	(120)	2.6	4.7	3.6
15	230	5.3	220	3.3	125	2.3	3.3	3.6
16	225	5.2	230	2.8	(145)	1.9	4.9	3.6
17	215	4.4					3.1	3.6
18	230	3.1					3.0	3.2
19	240	3.0					3.0	3.2
20	240	2.6					3.1	3.2
21	275	2.4					3.1	3.1
22	295	2.5					2.8	2.9
23	300	2.5					3.1	2.8

Time: 60.0°W.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.

*Average values except foF2 and fEs, which are median values.

Table 57

Townsville, Australia (19.3°S, 146.7°E)

July 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	3.3					2.1	(3.2)
01	230	3.1					2.1	(3.3)
02	240	(3.0)					2.1	---
03	230	(3.0)					2.1	---
04	220	3.0					2.1	(3.65)
05	240	2.8					2.1	(3.3)
06	240	2.8					2.1	3.25
07	230	4.5			130	1.7	2.2	3.6
08	235	5.6	230	---	100	2.3	3.1	3.6
09	250	6.0	220	4.0	100	2.8	3.6	3.5
10	270	6.2	220	4.3	100	3.1	4.1	3.5
11	270	6.4	200	4.4	100	3.2	4.2	3.45
12	270	6.2	200	4.5	100	3.2	4.3	3.5
13	285	6.3	200	4.4	100	3.2	4.2	3.4
14	275	6.1	200	4.4	100	3.2	4.2	3.5
15	260	5.8	200	4.0	100	3.0	4.3	3.5
16	240	5.7	200	3.8	110	2.7	3.7	3.5
17	230	5.7	---	---	---	2.1	3.6	3.5
18	210	5.0					3.1	3.5
19	210	4.0					3.1	3.5
20	230	3.1					2.2	3.2
21	250	3.2					2.1	3.1
22	250	3.1					2.1	3.1
23	250	3.0					2.1	(3.4)

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 59

Canberra, Australia (35.3°S, 149.0°E)

July 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	---	3.4						3.1
01	---	3.3						3.1
02	---	3.6						3.15
03	---	3.6						3.1
04	---	3.8						3.2
05	210	3.6						3.5
06	---	2.9						3.4
07	(210)	3.5						3.4
08	220	4.8	---	---	---	(2.0)		3.6
09	240	5.5	220	---	110	2.5		3.6
10	250	5.6	210	(4.1)	110	2.9		3.5
11	260	6.0	210	4.1	100	3.0	3.3	3.6
12	250	5.8	200	4.2	100	3.0	3.3	3.5
13	260	6.0	200	4.2	110	3.0	3.3	3.5
14	260	6.1	210	4.0	110	2.8	3.4	3.4
15	250	6.2	210	3.8	110	2.6	3.2	3.5
16	230	5.6	220	---	110	(2.3)	2.8	3.55
17	220	5.0					2.2	3.5
18	---	4.2						3.3
19	---	3.5						3.3
20	---	3.4						3.2
21	---	3.4						3.2
22	---	3.4						3.1
23	---	3.2						3.2

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 58

Brisbane, Australia (27.5°S, 153.0°E)

July 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	(3.5)						(3.1)
01	260	(3.8)						(3.1)
02	250	(4.0)						(3.2)
03	250	(4.0)						(3.2)
04	230	(3.8)						(3.3)
05	240	(3.3)						(3.2)
06	250	(3.2)						(3.2)
07	230	4.9			---	E		3.6
08	230	5.2	220	---	120	2.3	3.6	3.6
09	260	5.6	220	4.0	110	2.8	3.6	3.45
10	260	6.2	230	4.2	120	3.0	4.0	3.5
11	290	6.0	220	4.3	120	3.2	4.0	3.4
12	275	6.0	220	4.3	110	3.3	4.0	3.5
13	280	5.6	200	4.2	110	3.0	4.0	3.4
14	270	6.0	200	4.0	120	3.0	3.8	3.5
15	250	5.9	220	3.8	130	2.7	3.8	3.45
16	240	5.8	---	---	---	2.3	3.6	3.5
17	230	5.0			---	E	3.6	3.5
18	230	4.2						3.4
19	250	3.8						3.2
20	260	3.6						3.1
21	260	3.6						3.0
22	250	(3.5)						(3.1)
23	240	(3.5)						(3.1)

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 60

Hobart, Tasmania (42.9°S, 147.3°E)

July 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	2.0						3.0
01	270	2.0						2.9
02	270	2.0						2.9
03	270	2.1						3.0
04	250	2.1						3.0
05	250	2.3						3.0
06	250	2.0						3.05
07	270	2.0						3.0
08	220	4.0			100	1.7		3.2
09	220	5.0			100	2.1		3.3
10	200	5.3			100	2.5		3.25
11	200	5.5			100	2.7		3.2
12	200	5.5			100	2.8		3.2
13	200	6.0	---	---	100	2.8		3.2
14	210	6.2			100	2.6		3.2
15	200	5.8			100	2.2		3.2
16	220	5.5			100	1.9		3.3
17	220	5.0			---	---		3.1
18	220	4.0						3.0
19	240	3.2						3.0
20	250	2.5						3.0
21	250	2.5						3.0
22	250	2.1						3.0
23	270	2.0						3.0

Time: 150.0°E.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 61*

Falkland Is. (51.7°S, 57.8°W)

July 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	2.5					2.6	2.8
01	300	2.4					1.5	2.8
02	290	2.4						2.9
03	285	2.4					1.5	2.9
04	275	2.3					1.4	3.0
05	250	2.4					4.8	3.2
06	235	2.2					2.8	3.3
07	235	2.1			(175)	(1.2)	1.9	3.3
08	220	3.8			150	1.6	2.9	3.6
09	215	4.4			130	1.8	3.5	3.8
10	220	4.7	(205)	(3.2)	125	2.2	4.8	3.7
11	235	5.0	215	3.4	120	2.4	5.1	3.6
12	240	5.6	230	3.5	120	2.5	5.0	3.6
13	230	5.5	225	3.5	125	2.4	5.1	3.8
14	220	5.0	(230)	(3.2)	130	2.3	3.8	3.8
15	230	4.9			140	2.0	3.7	3.7
16	215	4.4			(170)	1.6	3.1	3.7
17	225	3.1					3.0	3.3
18	235	2.6					2.0	3.3
19	250	2.5					2.2	3.2
20	250	2.3					2.2	3.3
21	265	2.3					2.1	3.1
22	285	2.4					2.6	2.9
23	285	2.4					2.3	2.9

Time: 60.0°W.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.

*Average values except foF2 and fEs, which are median values.

Table 63

Townsville, Australia (19.3°S, 146.7°E)

May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	(3.2)					2.1	(3.3)
01	250	(3.0)					2.2	---
02	240	(3.2)					2.3	---
03	240	>3.5					2.1	---
04	230	3.1					2.2	---
05	240	2.8					2.2	---
06	240	3.0					2.4	3.3
07	230	5.0			130	1.9	3.0	3.5
08	240	6.0	230	3.7	100	2.3	3.5	3.6
09	250	6.8	220	4.1	100	2.8	3.6	3.5
10	250	7.0	210	4.3	100	3.1	3.7	3.5
11	260	6.4	210	4.4	100	3.2	3.4	3.4
12	275	6.8	200	4.4	100	3.3	4.2	3.4
13	260	7.2	200	4.3	100	3.3	4.3	3.4
14	260	6.6	200	4.3	100	3.2	4.3	3.5
15	260	6.5	210	4.0	100	3.0	4.4	3.4
16	250	6.6	210	3.7	100	2.6	4.4	3.5
17	230	6.0	---	---	---	2.1	3.8	3.5
18	210	5.2					3.2	3.5
19	220	3.8					2.9	3.45
20	230	3.2					2.1	3.3
21	250	3.2					2.1	3.1
22	250	3.5					2.1	(3.3)
23	240	>2.9					2.1	(3.15)

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 65

Canberra, Australia (35.3°S, 149.0°E)

May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	3.6						3.1
01	250	3.8						3.1
02	250	3.9						3.1
03	250	3.9						3.1
04	240	4.0						3.2
05	220	3.8						3.4
06	210	3.3						3.4
07	210	4.3			---	<1.7		3.6
08	220	5.5	---	---	100	2.1		3.6
09	240	5.8	210	3.7	100	2.6		3.5
10	250	6.0	220	4.0	100	2.9	3.1	3.5
11	250	6.4	200	4.2	100	3.0	3.4	3.6
12	250	6.5	200	4.2	100	3.0	3.4	3.4
13	250	6.6	200	4.2	100	3.0	3.2	3.4
14	250	6.8	210	4.0	100	2.9	3.1	3.4
15	240	6.8	200	3.7	100	2.7	3.0	3.6
16	210	6.2	---	3.2	100	2.2		3.6
17	210	5.6			---	<1.7	2.0	3.5
18	210	4.2						3.4
19	240	3.8						3.25
20	240	3.7						3.3
21	240	3.8						3.3
22	250	3.6						3.1
23	250	3.6						3.2

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 62*

Ibadan, Nigeria (7.4°N, 4.0°E)

May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	275	4.5					2.1	(2.8)
01	275	4.0					1.8	(3.4)
02	275	(3.1)					1.5	(3.1)
03	265	2.4					2.0	(3.35)
04	260	1.8						(3.5)
05	270	(1.6)						---
06	245	5.3			126	1.8	3.7	3.3
07	(275)	7.1	227		108	2.6	4.8	3.2
08	300	8.2	215		104	3.0	6.9	3.05
09	330	8.7	205	4.4	101	3.2	10.4	2.75
10	345	8.6	200	4.5	100	3.4	10.5	2.55
11	350	8.2	199	4.6	100	3.5	10.6	2.5
12	350	8.2	198	4.6	101	3.5	10.6	2.55
13	355	8.3	197	4.5	101	3.4	10.2	2.55
14	335	8.8	194	4.4	104	3.3	9.4	2.6
15	315	9.2	201	4.3	106	3.1	6.8	2.65
16	305	9.2	210		109	2.7	4.3	2.7
17	(290)	9.3	232		111	2.1	3.8	2.8
18	245	9.5			137	1.5	3.6	2.9
19	255	8.8					3.7	2.95
20	265	7.5					3.0	3.1
21	255	6.6					2.3	3.2
22	260	5.6					1.8	(3.1)
23	260	4.8					1.5	(3.25)

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.

*Average values except foF2 and fEs, which are median values.

Table 64

Brisbane, Australia (27.5°S, 153.0°E)

May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	(4.0)						3.0
01	250	4.0						3.1
02	250	4.4						3.05
03	240	4.2						(3.1)
04	230	4.0						3.2
05	230	3.7						(3.2)
06	250	3.5						(3.15)
07	225	5.3			130	2.0		3.6
08	230	5.9	230	---	110	2.2		3.5
09	250	6.3	225	4.1	120	2.8		3.4
10	250	6.7	220	4.2	120	3.0	3.6	3.4
11	270	6.6	220	4.2	110	3.2	3.6	3.35
12	260	6.5	210	4.2	120	---	(4.2)	3.4
13	260	6.5	220	4.2	120	3.2	(3.6)	3.3
14	260	6.7	220	4.1	120	3.1	(3.8)	3.3
15	250	6.9	---	3.9	---	---	(4.6)	3.4
16	230	6.2			---	---	(4.4)	3.45
17	220	5.6			---	E	3.0	3.5
18	220	4.3						3.25
19	250	3.8						3.1
20	250	3.8						3.1
21	260	4.0						3.2
22	240	(4.0)						(3.1)
23	250	(4.0)						(3.1)

Time: 150.0°E.

Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 66

Hobart, Tasmania (42.9°S, 147.3°E)

May 1955

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	2.0						3.0
01	290	2.0						3.0
02	290	2.0						3.0
03	280	2.0						3.0
04	270	2.0						3.0
05	250	2.0						3.05
06	250	2.0						3.1
07	240	2.6			---	E		3.1
08	220	4.5			100	2.0		3.2
09	220	5.0			100	2.3		3.2
10	210	5.3	---	---	100	2.5	2.7	3.2
11	200	5.7	---	---	100	2.7	3.0	3.2
12	200	6.0			100	2.8	3.0	3.1
13	200	6.0			100	2.7		3.1
14	210	6.5			100	2.6		3.1
15	220	6.2			100	2.3	2.9	3.2
16	220	6.2			100	1.9		3.2
17	210	5.5			---	---		3.2
18	220	4.1						3.0
19	240	3.3						3.0
20	250	2.8						3.0
21	250	2.5						3.0
22	260	2.3						3.0
23	270	2.1						3.0

Time: 150.0°E.

Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 67*

Ibadan, Nigeria (7.4°N, 4.0°E)							
April 1955							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00	275	(6.0)					---
01	275	(5.2)					---
02	250	(4.1)					---
03	230	(3.1)					3.4
04	235	2.1					3.4
05	245	1.6				3.1	3.4
06	240	4.8			125	1.7	3.8
07	275	6.6	230		110	2.4	4.5
08	305	7.8	215		105	2.9	9.6
09	325	8.6	200	4.4	100	3.1	10.6
10	355	8.1	200	4.5	100	3.3	10.8
11	355	7.7	200	4.5	(100)	3.4	11.4
12	340	8.1	200	4.5	100	3.4	10.6
13	340	8.4	200	4.4	100	3.4	10.2
14	335	8.9	200	4.4	105	3.3	9.0
15	320	9.3	200		105	3.0	4.9
16	295	9.5	215		110	2.6	3.9
17	(280)	9.7	235		115	2.1	3.8
18	260	9.6	---		(135)	1.4	3.0
19	295	8.8					2.7
20	300	8.1					2.7
21	300	8.1					(2.8)
22	280	7.8					(2.8)
23	280	(6.9)					---

Time: 0.0°.

Sweep: 0.67 Mc to 25.0 Mc in 5 minutes.

*Average values except foF2 and fEs, which are median values.

Table 68*

Campbell I. (52.5°S, 169.2°E)							
October 1951							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00							
01							
02							
03							
04							
05	280	4.0			130	1.9	2.9
06							
07	320	5.3	250	4.0	120	2.8	2.9
08	330	5.6	240	4.3	110	3.1	3.0
09	340	5.8	230	4.5	110	3.2	3.0
10	330	6.4	230	4.6	110	3.3	2.9
11	340	6.6	230	4.6	110	3.3	2.9
12	330	6.6	230	4.6	110	3.4	2.9
13	320	6.6	240	4.5	110	3.3	3.0
14	310	6.6	240	4.4	110	3.2	2.9
15	300	6.8	240	4.2	110	3.0	3.0
16	300	6.8	240	4.0	110	2.7	2.9
17	280	6.7	250	3.6	120	2.5	2.9
18	260	6.8	260	3.1	130	2.0	2.9
19	260	6.6	---	---	135	1.5	2.9
20							
21	260	5.4					2.7
22							
23	290	4.4					1.9 (2.65)

Time: 165.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 5 minutes, manual operation.

*Observations taken on a 16-hour working schedule.

Table 69*

Campbell I. (52.5°S, 169.2°E)							
September 1951							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00							
01							
02							
03							
04							
05	300	2.2					2.7
06							
07	270	4.6	240	3.7	125	2.5	3.0
08	320	5.0	240	3.9	120	2.7	3.0
09	300	5.6	240	4.2	120	2.9	3.0
10	350	5.6	240	4.3	115	3.0	2.9
11	330	5.6	240	4.3	120	3.2	3.0
12	340	6.0	230	4.3	115	3.2	3.0
13	330	5.8	230	4.3	120	3.1	3.0
14	300	6.3	240	4.1	120	3.0	3.0
15	300	6.1	240	4.0	120	2.8	3.0
16	300	6.0	240	3.5	120	2.4	3.0
17	250	5.9	---	---	120	2.0	3.0
18	250	5.0					2.9
19	290	4.4					2.9
20							
21	290	3.8					2.65
22							
23	300	3.5					2.7

Time: 165.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 5 minutes, manual operation.

*Observations taken on a 16-hour working schedule.

Table 70*

Campbell I. (52.5°S, 169.2°E)							
August 1951							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00							
01							
02							
03							
04							
05	300	2.6					1.6 2.9
06							
07	250	4.0	---	---	120	2.0	3.1
08	250	4.6	240	3.5	120	2.4	3.2
09	250	5.0	240	3.5	120	2.6	3.3
10	270	5.4	220	3.8	120	2.7	3.1
11	280	5.6	230	4.0	120	2.9	3.2
12	280	6.0	230	4.1	120	2.9	3.2
13	270	6.0	230	4.0	120	2.8	3.15
14	280	6.2	230	3.9	120	2.7	3.1
15	270	6.2	230	3.6	120	2.5	3.15
16	250	6.0	240	3.1	120	2.0	3.1
17	240	5.4			---	1.3	3.1
18	250	4.8					2.9
19	260	4.1					2.9
20							
21	280	3.0					2.8
22							
23	320	2.8					2.5 2.7

Time: 165.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 5 minutes, manual operation.

*Observations taken on a 16-hour working schedule.

Table 71*

Campbell I. (52.5°S, 169.2°E)							
July 1951							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00							
01							
02							
03							
04							
05	270	2.3					1.8 3.0
06							
07	250	3.0			---	E	1.5 3.1
08	240	4.4	230	2.7	110	2.0	3.3
09	240	5.0	230	3.0	110	2.2	3.3
10	250	5.8	220	3.4	110	2.5	3.35
11	250	6.3	220	3.6	110	2.7	3.3
12	250	6.4	220	3.6	110	2.7	3.3
13	240	6.4	220	3.6	115	2.6	3.35
14	240	6.7	230	3.4	115	2.5	3.3
15	240	6.8	230	3.0	120	2.2	3.3
16	230	6.3	220	3.1	110	1.7	3.2
17	220	5.1			---	E	3.1
18	240	4.2					3.0
19	260	3.3					3.0
20							
21	290	3.1					2.9
22							
23	290	3.0					2.8

Time: 165.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 5 minutes, manual operation.

*Observations taken on a 16-hour working schedule.

Table 72*

Campbell I. (52.5°S, 169.2°E)							
October 1950							
Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs (M3000)F2
00							
01							
02							
03							
04							
05	260	3.8			---	1.8	3.0
06							
07	300	5.2	240	3.9	120	2.6	3.1
08	300	5.5	240	4.4	110	3.0	3.0
09	320	5.6	230	4.5	120	3.2	3.0
10	340	5.8	230	4.6	110	3.3	3.0
11	350	6.0	220	4.6	110	3.3	3.0
12	340	6.2	220	4.6	110	3.3	2.95
13	330	6.3	230	4.6	110	3.3	2.9
14	340	6.6	230	4.5	110	3.2	2.9
15	310	6.8	230	4.3	110	3.0	3.0
16	290	6.8	240	4.0	120	2.7	3.0
17	270	6.3	250	---	120	2.4	3.0
18	260	6.2			---	1.8	2.2 3.0
19	260	6.3					2.0 2.95
20							
21	280	5.5					2.8 (2.9)
22							
23	320	4.5					3.6 (2.85)

Time: 165.0°E.

Sweep: 1.0 Mc to 15.0 Mc in 5 minutes, manual operation.

*Observations taken on a 16-hour working schedule.

75°W Mean Time

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
01	43	47	45	42	32	30	29	38	62	74	98	103	96	95	96	96	88	85	80	64	58	48	52	45	01
02	35	31	33	32	38	39	38	38	58	77	82	102	100	96	94	96	92	95	84	64	55	47	43	41	02
03	40	38	36	37	34	22	19	32	58	77	83	90	96	82	79	86	88	79	76	65	52	45	45	38	03
04	39	32	23	28	30	29	27	36	58	72	82	80	100	93	82	82	86	83	82	73	63	45	35	31	04
05	30	28	32	35	37	37	38	45	63	72	78	84	90	94	86	84	78	79	73	68	58	53	42	41	05
06	31	24	23	22	24	27	30	46	70	82	93	92	98	87	86	86	88	90	78	56	51	39	34	31	06
07	29	31	30	32	33	33	31	41	64	76	79	79	90	87	99	80	71	70	65	58	48	39	32	30	07
08	28	28	27	27	31	31	31	42	70	71	82	86	94	90	92	83	77	84	70	60	55	46	32	30	08
09	29	29	31	34	38	39	36	48	68	76	76	83	86	88	88	90	90	78	74	52	55	44	35	31	09
10	33	30	30	32	33	34	33	44	66	78	82	92	88	90	86	85	92	85	76	62	52	45	45	44	10
11	43	43	43	45	45	40	39	50	76	82	86	90	105	106	108	103	97	98	93	87	80	67	58	55	11
12	50	42	45	47	37	25	18	35	67	92	98	104	102	98	103	96	95	86	76	60	54	52	46	44	12
13	44	35	33	32	32	30	28	40	67	75	92	90	96	100	97	90	88	84	73	62	53	50	43	38	13
14	34	34	33	31	30	24	22	38	72	76	78	92	98	90	88	87	86	84	79	64	62	52	44	41	14
15	38	36	35	35	32	30	25	45	80	84	93	104	98	97	98	94	93	92	90	74	70	59	50	45	15
16	38	38	40	44	43	35	26	48	72	90	102	102	112	110	112	115	102	100	94	78	70	60	54	51	16
17	48	48	46	42	40	36	31	50	76	90	105	111	118	111	105	103	105	98	92	77	73	61	54	50	17
18	47	45	44	45	44	40	38	58	79	95	98	103	107	103	109	110	110	100	93	76	72	64	57	50	18
19	48	47	44	44	42	39	34	54	70	85	100	107	110	110	107	100	96	96	90	80	68	59	51	48	19
20	48	49	47	45	44	39	32	56	80	94	98	107	113	115	113	110	106	100	94	85	76	58	53	51	20
21	49	49	49	48	45	41	38	58	84	101	104	104	111	114	110	114	111	104							

TABLE 74
IONOSPHERIC DATA

foF2(half-hourly), Mc, February 1956

75°W Mean Time

Station: Washington, D.C. Lat 38.7°N. Long. 77.1°W.

Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2300							
01	45	U S	44	H	31	29	29	50	66	82	100	101	92	98	100	86	85	76	72	61	54	54	50	F	01						
02	31	F	32	U F	35	40	38	35	49	72	77	92	103	103	91	96	90	93	89	68	64	52	44	42	F	02					
03	40	F	37	F	37	36	30	20	19	45	63	71	86	93	93	79	80	90	82	77	68	57	46	45	43	F	03				
04	36	F	28	F	28	29	30	29	25	51	U J	70	82	75	98	96	86	80	86	81	82	76	69	55	38	F	04				
05	30	F	30	F	33	36	36	39	40	60	71	74	80	90	89	94	82	85	78	78	76	68	55	49	40	F	05				
06	26	F	24	23	22	25	29	33	60	U S	U J	78	84	86	93	82	86	96	86	78	65	56	43	35	31	F	06				
07	29	F	30	F	31	32	33	31	32	57	72	75	82	81	87	90	86	77	71	74	64	57	44	35	30	F	07				
08	28	F	27	F	30	32	31	32	61	72	74	87	90	94	94	86	80	77	76	70	60	51	38	30	30	F	08				
09	29	F	30	F	33	35	40	38	38	60	77	77	82	85	90	89	88	88	86	75	68	60	50	38	33	32	F	09			
10	31	F	31	F	30	32	34	32	34	60	74	82	86	90	92	90	87	98	90	82	68	60	50	47	45	41	F	10			
11	43	F	42	45	46	42	39	40	65	82	86	92	97	109	107	93	98	99	93	89	86	72	60	55	53	50	F	11			
12	48	F	44	F	42	29	22	24	55	85	90	102	102	96	102	98	96	91	80	69	55	52	49	44	43	40	F	12			
13	39	F	35	F	32	33	30	30	29	56	70	86	90	90	100	99	90	87	84	76	64	56	52	47	39	36	33	F	13		
14	35	F	33	F	32	31	25	24	25	56	64	87	80	97	96	87	88	88	86	82	70	U F	64	58	49	40	40	F	14		
15	35	F	35	F	33	34	31	25	29	63	80	93	102	96	98	100	100	97	94	91	80	74	64	55	48	41	40	F	15		
16	39	F	39	F	43	39	41	30	31	62	84	96	107	110	114	105	110	105	102	U S	102	86	74	64	57	53	49	48	F	16	
17	48	F	48	F	43	41	39	34	35	67	84	91	107	106	111	110	107	107	104	96	84	77	65	56	50	47	46	45	F	17	
18	46	F	44	F	45	43	37	42	71	86	96	114	115	102	106	108	110	105	94	88	76	68	60	56	50	48	47	46	F	18	
19	50	F	45	F	43	42	38	39	70	94	98	107	110	115	113	103	98	96	U S	92	86	76	65	57	49	48	47	46	F	19	
20	47	F	47	F	45	44	34	38	70	86	94	102	110	112	115	105	110	102	97	93	78	66	55	51	50	49	48	47	F	20	
21	49	F	49	F	48	45	39	43	72	94	102	106	111	114	113	111	111	110	102	94	80	70	60	58	52	51	50	49	F	21	
22	56	F	58	F	56	52	49	44	46	70	89	100	100	110	113	115	113	107	107	96	89	75	64	57	49	47	46	45	F	22	
23	48	F	45	F	44	43	39	35	41	70	87	94	99	106	114	117	113	115	U S	110	107	94	76	66	57	54	50	49	F	23	
24	48	F	47	F	46	42	38	33	39	70	88	98	106	110	112	108	110	110	106	105	95	83	68	60	51	47	46	45	F	24	
25	31	I F	27	I F	34	37	36	32	35	44	46	54	55	60	59	58	66	61	64	66	64	57	50	F	F	40	40	40	F	25	
26	35	F	30	F	27	26	23	19	32	50	57	66	U S	81	88	90	88	88	83	90	91	85	77	66	63	66	62	61	F	26	
27	66	F	66	F	52	40	38	37	40	62	78	84	F	94	105	100	102	101	100	100	98	90	74	U S	68	72	62	61	F	27	
28	50	F	50	F	45	42	33	23	36	72	102	107	U S	110	113	115	110	115	115	105	U S	100	92	68	60	58	64	54	53	F	28
29	48	F	44	F	46	31	16	23	33	62	77	99	96	100	105	112	107	102	97	95	81	65	59	54	47	42	41	40	F	29	
MED	40	39	43	36	36	32	35	61	77	86	94	100	100	100	98	97	93	91	80	68	59	54	48	42							
NO	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29		

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

Mean Time

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
01									Q	Q	L	L	L	L	L	L	Q								
02									Q	L	L	L	L	L	L	L	L	Q							
03									L	L	L	L	L	L	L	L	Q	Q							
04									Q	L	L	L	L	L	L	L	L	Q							
05									Q	L	L	L	L	L	L	L	L	Q							
06									Q	Q	L	L	H 470	L	L	L	L	L							
07									Q	L	L	L	L	L	L	L	L	L							
08									Q	L	L	L	L	L	H 380	L	L	Q							
09									Q	L	L	L	L	L	L	L	L	L							
10									Q	L	L	L	420	L	L	390	L	Q							
11									L	L	L	L	L	L	L	L	L	Q							
12									Q	L	L	L	L	L	L	L	L	Q							
13									Q	L	B	L	L	L	L	L	L	Q							
14									Q	L	L	L	L	L	L	420	L	Q	Q						
15									Q	Q	L	L	L	L	L	L	L	Q							
16									Q	Q	L	L	L	L	L	L	L	Q							
17									Q	L	L	L	L	L	L	L	L	Q							
18									Q	L	L	L	L	L	L	L	Q	Q							
19									Q	Q	B	L	L	L	L	L	L	Q							
20								Q	Q	Q	L	L	L	L	L	L	L	Q							
21								Q	Q	L	L	L	L	L	L	L	L	Q							
22									Q	Q	L	L	L	L	L	L	L	Q							
23									Q	Q	L	L	L	L	L	L	L	Q							
24									Q	Q	L	L	L	L	L	L	L	Q							
25									Q	Q	440	470	480	500	480	L	L	Q	Q						
26									Q	Q	L	L	L	L	L	L	L	Q	Q						
27									Q	L	L	L	L	L	L	L	L	Q	Q						
28									Q	Q	L	L	L	L	L	L	L	Q							
29									Q	Q	L	L	L	L	L	L	L	Q							
MED NO																									

TABLE 76
IONOSPHERIC DATA

foE, Mc, February 1956

75°W Mean Time

Station: Washington, DC. Lat 38.7°N Long. 77.1°W Sweep 1.0 Mc to 250 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01									H I A 210 260	300	310	320	320	300	290	240	E S 160							
02									A A	A	U A 320	320	310	A	280	250	U R 170							
03									U A 210	H 250	A	A	A	A	A	A	180							
04									A	260	A	A	310	320	300	290	250	A						
05									U A 210	U A 270	300	310	320	A	A	A	A	A						
06									A	A	300	310	320	H 320	H 310	H 280	H 240	180						
07									180	250	U A 270	H 300	A	A	320	310	280	250	170					
08									U A 220	H 270	300	H 310	A	A	A	H 290	250	H 190						
09									A	A	310	330	330	330	310	290	230	U A 200						
10									220	280	310	330	340	330	320	300	270	U P 230						
11									220	280	A	A	340	340	330	310	250	H 190						
12									H 230	H 270	H 310	H 330	340	340	320	H 300	H 280	F 220						
13									A	280	I B 310	340	350	350	340	310	280	A						
14									H 240	290	310	330	350	H 340	H 340	310	290	U P 220						
15									H 240	300	330	340	H I A 360	H 350	H 340	H 310	270	240						
16									240	A	A	350	360	360	370	320	U A 280	230						
17									A	280	330	340	350	H 360	330	U A 310	290	230						
18									H 250	300	320	340	360	U A 330	H 340	330	290	B						
19									U A 250	U A 300	B	B	380	380	360	U A 320	A	B						
20									U P 170	270	310	340	360	H 370	350	360	340	290	230					
21									E S 160	H 250	300	330	350	U A 360	I A 360	350	330	H 290	200					
22									H 250	H 300	330	340	350	H 360	H 340	330	290	R						
23									H 180	260	300	330	340	350	H 360	H 350	340	290	230					
24									U A 170	250	310	340	360	370	380	350	320	300	U R 260					
25									U S 240	300	320	H 340	U S 350	330	330	310	280	230	170					
26									I A 180	240	290	320	340	I S 340	350	330	330	280	230	U R 170				
27									230	280	320	340	350	I A 340	340	320	290	R	S					
28									A	A	A	320	A	A	A	A	A	230						
29									R	H 240	290	320	330	350	340	330	310	280	C					
MED									170	240	280	320	340	350	340	330	310	280	220					
NO									5	22	24	22	22	25	25	25	26	25	21	2				

75°W Mean Time

Manual ☐ Automatic ☒

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

75°W Mean Time

Manual ☐ Automatic ☒

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE 79
IONOSPHERIC DATA

27

h'f₂, Km, February 1956

75°W Mean Time

Station: Washington DC. Lat. 38.7°N. Long. 77.1°W. Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
01	U S 300	U S 270	U S 250	U S 235	240	U S 270	U S 290	230	220	210	260	260	250	260	260	240	230	220	220	230	U A 260	U A 270	250	230	01	
02	260	280	270	270	290	U S 250	U S 250	240	220	220	230	250	250	230	230	240	250	230	220	230	230	230	260	280	02	
03	270	260	260	260	230	250	280	250	240	220	240	250	250	240	240	260	230	230	230	230	220	260	250	240	03	
04	260	250	U S 290	270	260	240	240	230	220	240	240	240	250	240	240	250	230	240	220	220	220	220	240	250	04	
05	270	270	280	280	270	240	230	220	210	220	230	250	240	260	240		230	220	220	220	230	220	220	230	05	
06	U S 230	U S 260	250	260	270	270	U S 260	240	210	210	240	270	260	250	270	250	230	230	210	210	220	230	250	250	06	
07	270	270	U S 260	240	250	240	250	230	220	220	250	240	U L 250	240	250	230	220	240	210	220	220	230	240	270	07	
08	260	250	270	280	260	240	250	240	220	230	240	250	260	260	250	240	240	240	220	220	230	220	240	270	08	
09	270	290	290	270	270	250	250	240	220	240	240	250	270	250	260		240	220	230	210	230	240	240	270	09	
10	270	270	260	270	270	250	270	240	220	230	260	250	250	250	260	250	250	230	220	210	220	240	260	260	10	
11	270	280	U S 270	250	240	240	260	250	230	230	250	260	250	260	260	250	260	240	220	230	240	230	240	260	11	
12	230	250	270	250	230	250	370	260	250	230	240	250	240	U L 240	250	240	230	220	220	220	240	250	250	260	12	
13	270	260	F 270	290	270	250	250	230	230	250	260	260		L 280		250		L 230	230	230	230	250	250	250	260	13
14	280	290	260	260	270	250	F 300	260	240	240	230	250	260	240	250	240	230	230	220	220	230	230	240	260	14	
15	270	250	270	260	250	230	260	250	230	230	240	260	260	250	250	250	240	230	230	220	220	230	230	240	280	15
16	F 320	F 320	310	280	240	230	270	250	230	230	240	240	250	250	270	240	230	230	220	220	230	240	240	260	16	
17	260	260	250	250	250	250	240	240	220		L 250	U L 240	250	250	250	250	240	240	230	220	220	230	235	250	260	17
18	270	270	U S 280	260	260	240	260	230	220	250	240	U L 240	250	250	280	260	230	230	230	230	230	240	240	250	18	
19	270	280	300	280	270	260	260	260	220	230	250	250	250	250	240	250	240	240	230	230	230	230	240	260	19	
20	270	270	250	250	240	230	250	240	230	230	250	260	260		L 260		240	230	230	230	220	220	250	270	20	
21	290	280	270	270	250	230	250	240	220	240	240	240	270	U L 260	250	250	250	230	220	220	220	240	250	270	21	
22	290	270	250	260	240	290	280	250	240	220	H 230	H 270	240	280	250	250	240	240	220	230	220	230	240	260	22	
23	270	260	250	260	250	250	260	240	240	240	250	290	H 270	280	280	250	U L 260	240	210	220	230	230	250	250	23	
24	250	260	260	250	240	240	250	240	220	230	240	240	240	250	240	250	240	240	220	210	220	220	230	230	24	
25	310	360	U S 370	400	440	360	360	320	270	250	H 810	540	420	500	420		L 260		L 260	260	250	250	240	250	260	25
26	250	270	280	270	300	300	340	280	250	300	290		L 260	260	270		L 240	240	230	230	230	280	260	280	26	
27	280	240	240	230	280	290	270	250	240	240	250	260	U L 260	250	260	250	U L 260	240	230	220	220	240	250	230	240	27
28	240	250	250	260	240	260	U S 300	240	230	230	240		L 260	260	260	280	250	230	240	220	220	270	U S 320	U S 310	260	28
29	290	290	260	250	280	F 360	260	270	250		L 280			L 280	280	260	250	240	230	230	250	250	260	270	29	
MED	270	270	270	260	260	250	260	240	230	230	240	250	250	250	250	250	240	230	220	220	230	235	250	260		
NO	29	29	29	29	29	29	29	29	29	27	28	27	27	28	28	24	27	29	29	29	29	29	29	29	29	

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE 80
IONOSPHERIC DATA

h'Fl, Km, February 1956

75°W Mean Time

Station: Washington D.C. Lat. 38.7°N Lang. 77.1°W Sweep 1.0 Mc to 25.0 Mc in 13.5 sec.

Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
											230	230	210	205	210	220									01
										220	220	215	220	220	195	225	230								02
									225	220	220	220	210	200	185	225									03
										210	230	215	215	205	205	205	220								04
										220	200	190	190	195	210	205	225								05
											185	195	185	200	215	210	235	230							06
										205	200	205	185	215	210	220	220	235							07
										220	210	200	200	200	200	210	220								08
										220	215	210	210	210	220	210	220	230							09
										210	210	200	200	210	210	200	220								10
									220	210	220	200	230	215	220	225	240								11
										220	230	210	230	190	200	210	220								12
										230		220	210	220	220	220	230								13
										230	220	190	200	200	210	220									14
											225	215	210	210	200	200	230								15
											230	210	210	205	220	230	230								16
										225	220	220	215	225	220	230	235								17
										225	230	205	225	215	220	220									18
											230	230	220	230	230	220									19
										220	220	215	220	225	230	230	230								20
										225	225	215	210	225	225	220	220								21
											220	215	210	225	220	220	220								22
										230	225	215	225	210	230	240	230								23
										220	220	220	210	220	220	220	230								24
											255	250	235	240	235	235	245								25
										220	210	210	240	210	210	220	230								26
									230	220	200	220	220	210	215	200	230								27
										220	200	205	200	210	220	220	220								28
										220	210	230	210	220	220	230	230								29
															</										

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

TABLE 82
IONOSPHERIC DATA

(M3000)F2, February 1956

75°W Mean Time

Station: Washington, DC. Lat 38.7°N. Long. 77.1°W. Sweep 1.0 Mc to 25.0 Mc in 13.5 sec. Manual ☐ Automatic ☒

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
01	270	290	310	330	285	280	280	310	360	340	340	330	320	325	330	325	330	340	320	315	310	290	310	310	01
02	300	280	310	310	290	280	320	330	340	345	335	330	330	335	330	340	340	325	340	315	325	315	310	320	02
03	300	310	295	305	290	330	320	330	345	345	340	340	320	340	320	320	320	330	330	320	310	300	320	310	03
04	340	315	285	300	305	330	340	330	360	330	360	330	340	340	330	315	325	320	320	325	330	335	320	300	04
05	320	290	310	300	310	320	340	310	360	360	340	335	340	330	330	330	340	335	320	310	325	315	340	335	05
06	330	315	305	300	300	310	300	330	360	365	370	320	340	340	320	310	340	340	350	310	325	330	325	310	06
07	295	310	310	310	310	320	320	330	360	360	350	360	320	320	335	340	340	330	320	310	330	330	320	300	07
08	310	310	290	300	310	310	310	330	360	345	325	330	320	320	340	320	330	330	330	330	320	330	310	300	08
09	290	290	290	300	290	300	300	330	360	360	355	340	325	325	325	310	320	335	330	330	340	330	310	310	09
10	310	300	310	300	300	320	300	330	365	370	340	350	330	310	330	320	330	330	330	320	310	290	300	280	10
11	290	295	290	310	320	290	300	310	350	340	330	320	310	315	310	310	310	320	305	305	310	305	300	290	11
12	300	280	290	305	320	300	280	320	330	350	320	340	340	310	320	320	330	330	330	320	300	305	300	300	12
13	300	300	290	290	290	290	290	330	340	330	320	320	310	320	320	320	320	330	330	320	300	320	330	300	13
14	300	300	310	300	290	320	290	320	330	340	330	350	330	335	340	310	320	320	330	310	320	315	310	300	14
15	300	310	310	310	310	340	310	330	345	330	325	335	320	320	300	325	320	320	310	315	320	320	310	290	15
16	290	280	270	290	310	320	300	310	340	320	330	310	310	310	300	310	305	320	320	315	320	300	295	295	16
17	285	295	300	300	300	300	310	320	345	330	310	310	310	310	320	305	305	320	310	315	315	315	300	300	17
18	285	290	270	280	290	300	285	320	350	325	320	300	330	300	305	310	310	310	310	310	310	310	300	310	18
19	290	280	265	275	290	280	290	300	330	320	320	325	305	310	300	310	315	320	310	305	320	320	300	300	19
20	300	290	300	300	310	310	300	330	350	330	320	310	310	300	305	295	310	305	305	310	320	300	290	285	20
21	275	275	285	290	300	310	300	320	330	335	325	310	310	300	300	300	305	300	305	300	300	300	300	280	21
22	275	275	285	280	290	260	270	310	330	330	320	315	305	310	300	300	310	315	305	310	310	305	310	280	22
23	280	290	290	290	300	290	290	320	340	345	335	325	315	300	300	300	300	325	320	320	300	310	305	300	23
24	300	295	290	305	310	305	310	325	320	325	325	315	310	310	305	305	310	315	320	310	310	305	315	310	24
25	280	280	265	260	255	265	255	275	285	290	205	240	270	245	265	270	280	280	290	300	290	320	290	280	25
26	290	300	300	320	310	300	290	300	320	300	315	305	310	315	325	305	305	305	305	300	315	285	300		26
27	280	295		300	265	305	285	330	335	340	325	320	325	320	320	320	320	315	310	300	315	305	320	300	27
28	300	300	290	295	310	305	280	330	320	335	310	320	320	310	305	310	310	320	330	320	280	255	260	290	28
29	280	275	275	300	310	270	350	300	320	320	310	310	290	300	300	300	300	310	310	300	300	280	300	290	29
MED	295	295	290	300	300	305	300	320	340	335	325	320	320	315	320	310	320	320	320	310	315	310	310	300	
NO	29	29	28	29	29	29	28	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	29	28	

CENTRAL RADIO PROPAGATION LABORATORY, NATIONAL BUREAU OF STANDARDS, BOULDER, COLO.

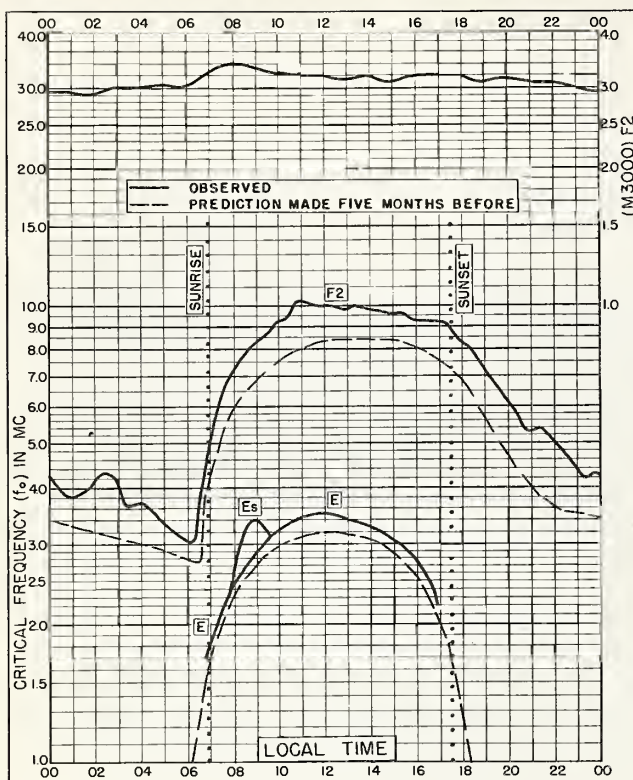


Fig. 1. WASHINGTON, D. C.
38.7°N, 77.1°W FEBRUARY 1956

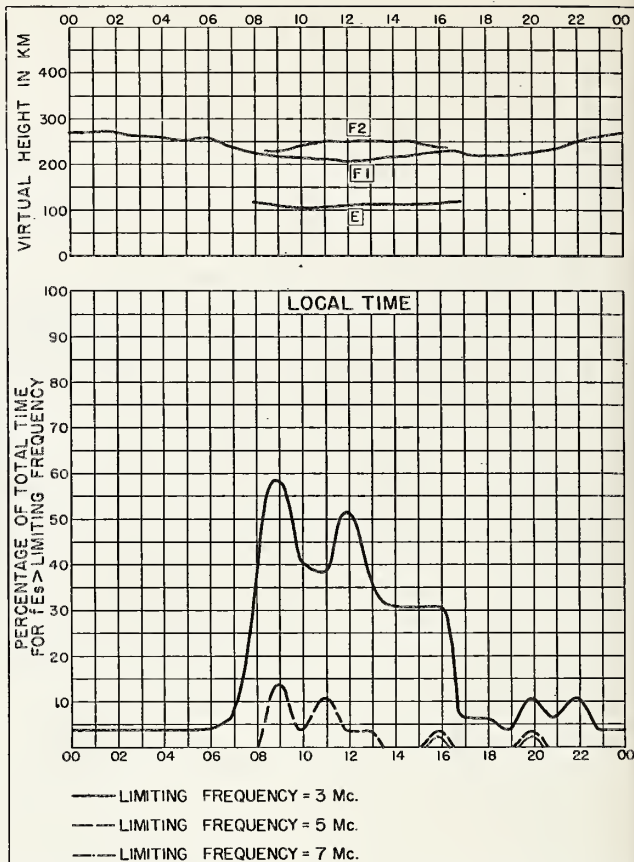


Fig. 2. WASHINGTON, D. C. FEBRUARY 1956

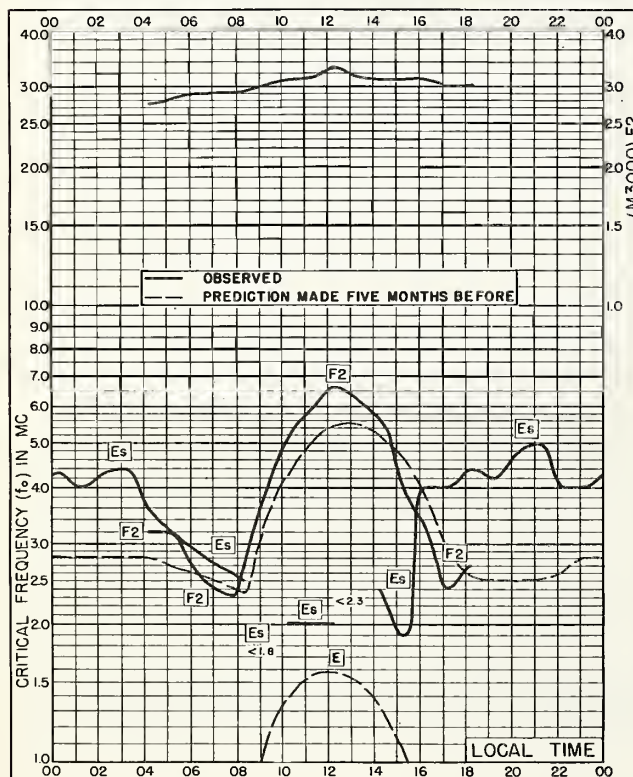


Fig. 3. TROMSØ, NORWAY
69.7°N, 19.0°E JANUARY 1956

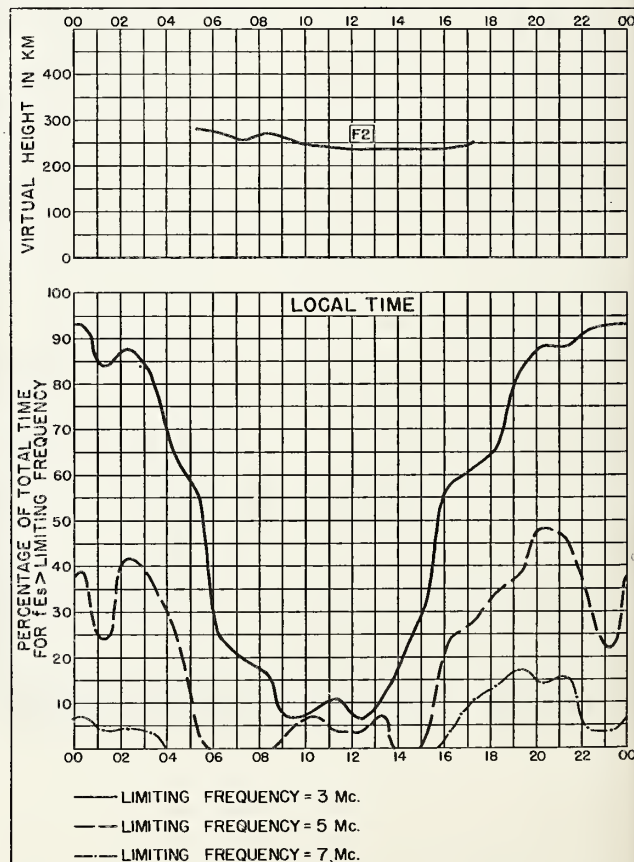


Fig. 4. TROMSØ, NORWAY JANUARY 1956

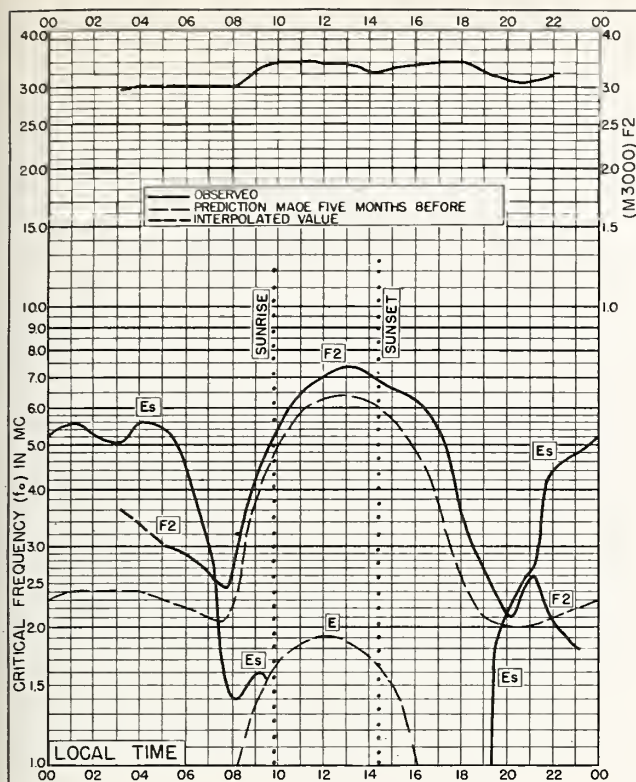


Fig. 5. FAIRBANKS, ALASKA
64.9°N, 147.8°W JANUARY 1956

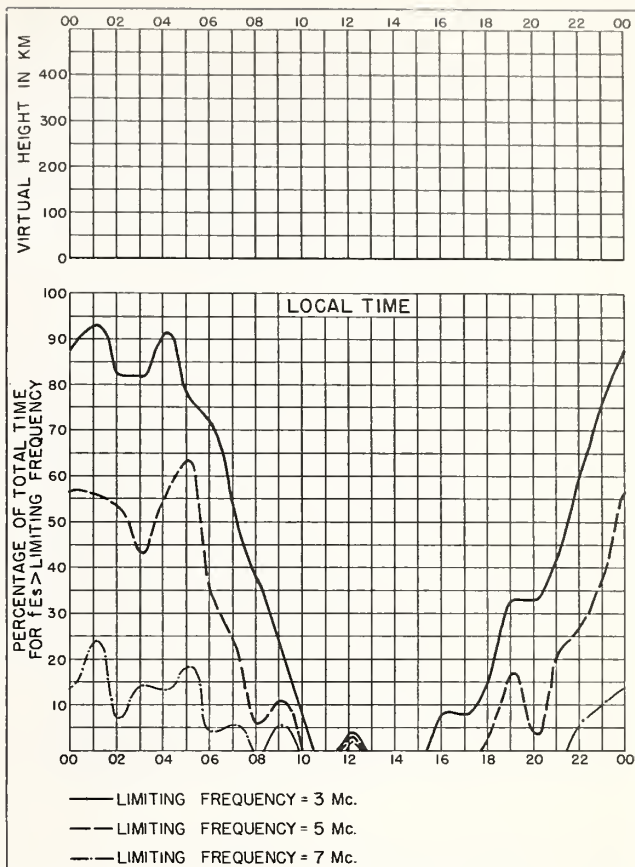


Fig. 6. FAIRBANKS, ALASKA JANUARY 1956

NBS 490

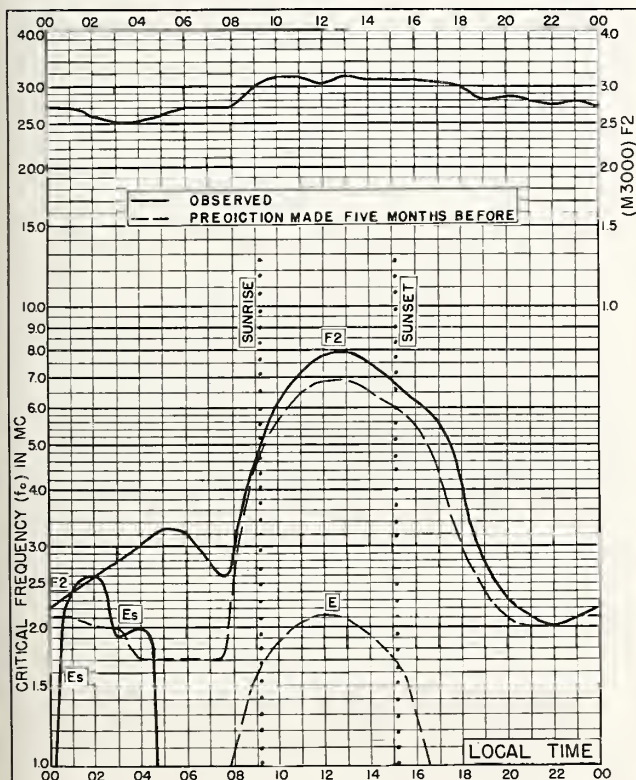


Fig. 7. ANCHORAGE, ALASKA
61.2°N, 149.9°W JANUARY 1956

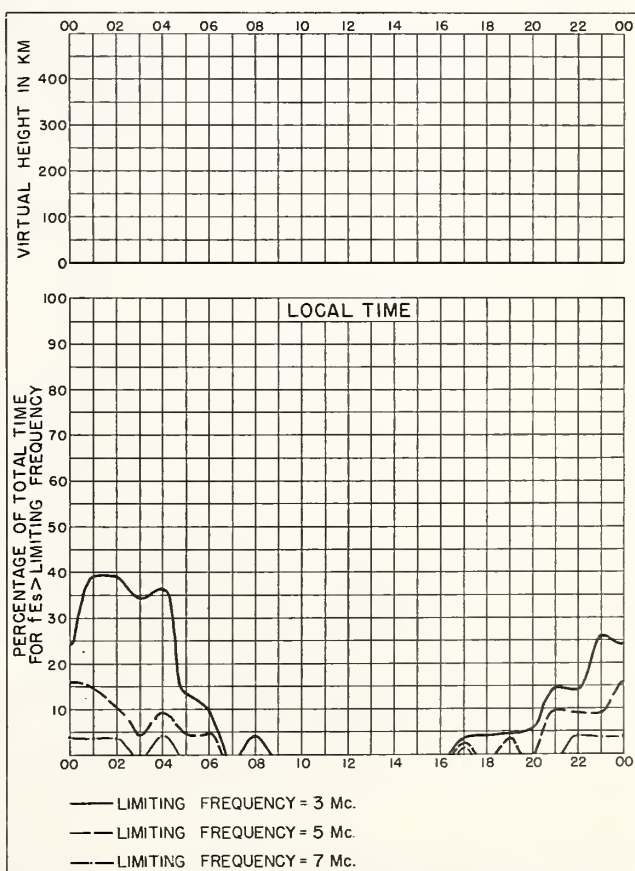


Fig. 8. ANCHORAGE, ALASKA JANUARY 1956

NBS 490

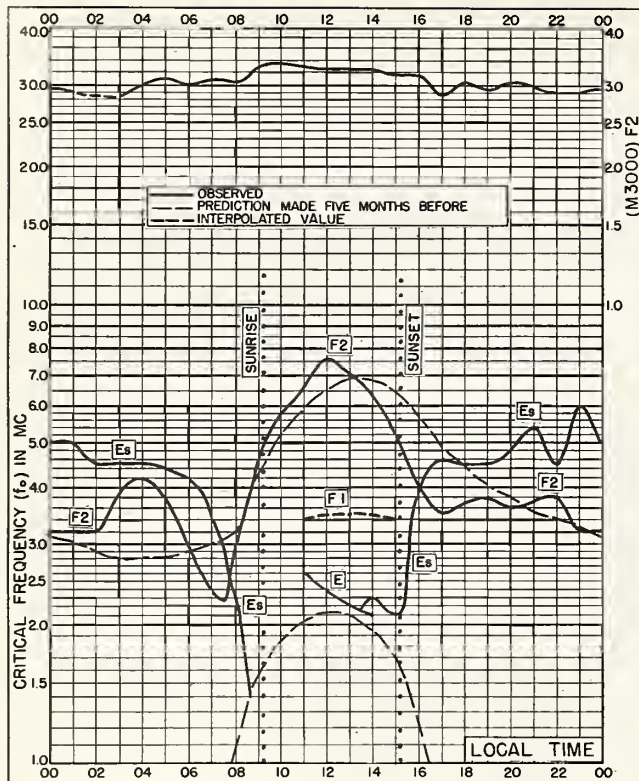


Fig. 9. NARSARSSUAK, GREENLAND
61.2°N, 45.4°W JANUARY 1956

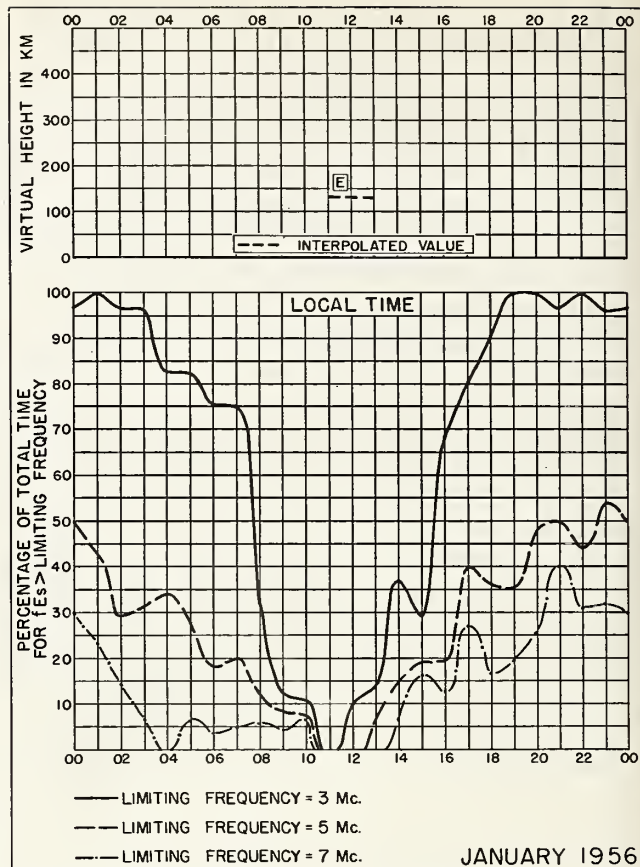


Fig. 10. NARSARSSUAK, GREENLAND

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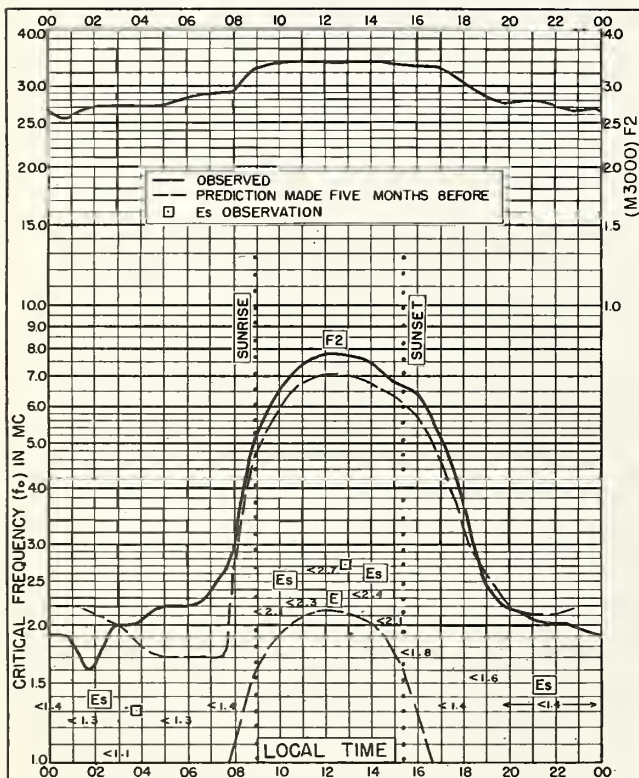


Fig. 11. OSLO, NORWAY
60.0°N, 11.1°E JANUARY 1956

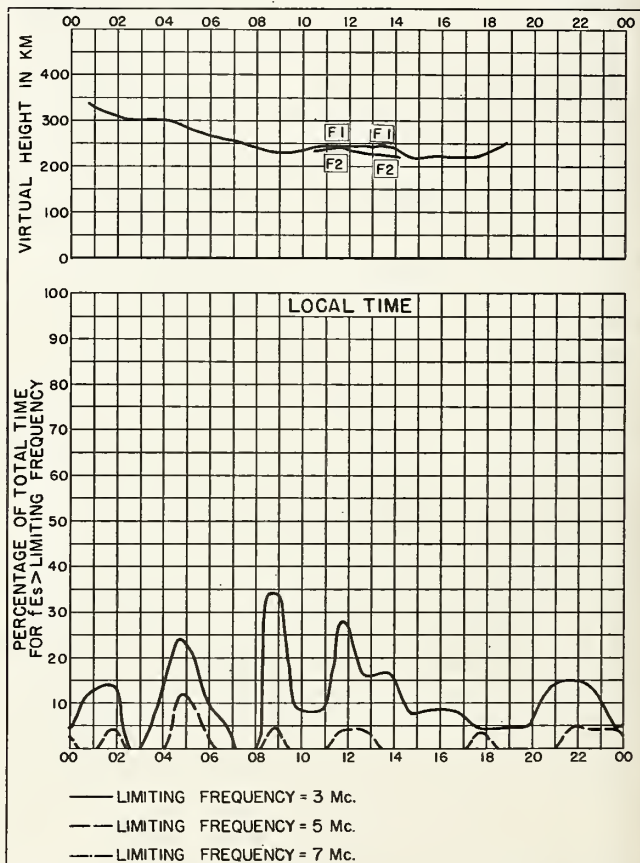
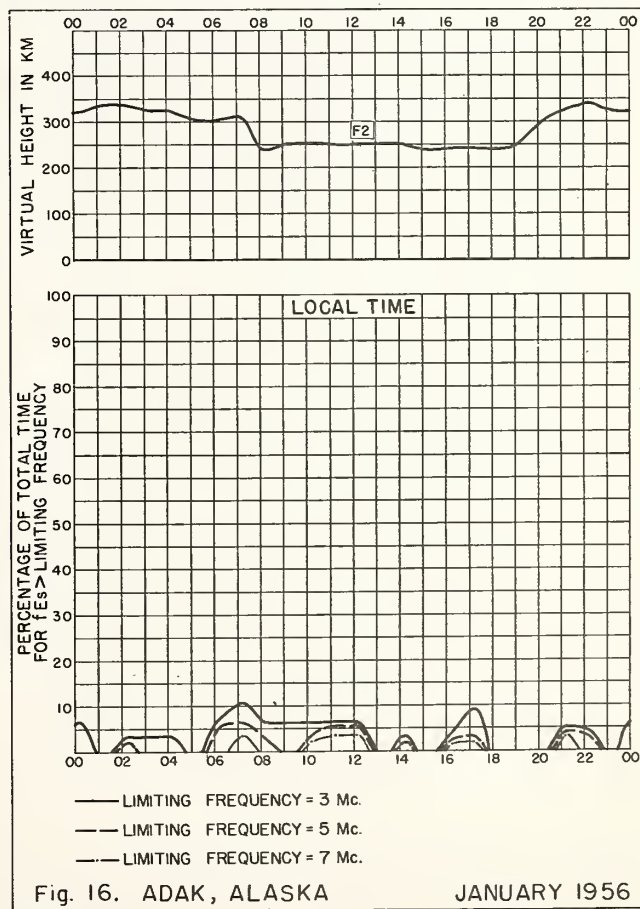
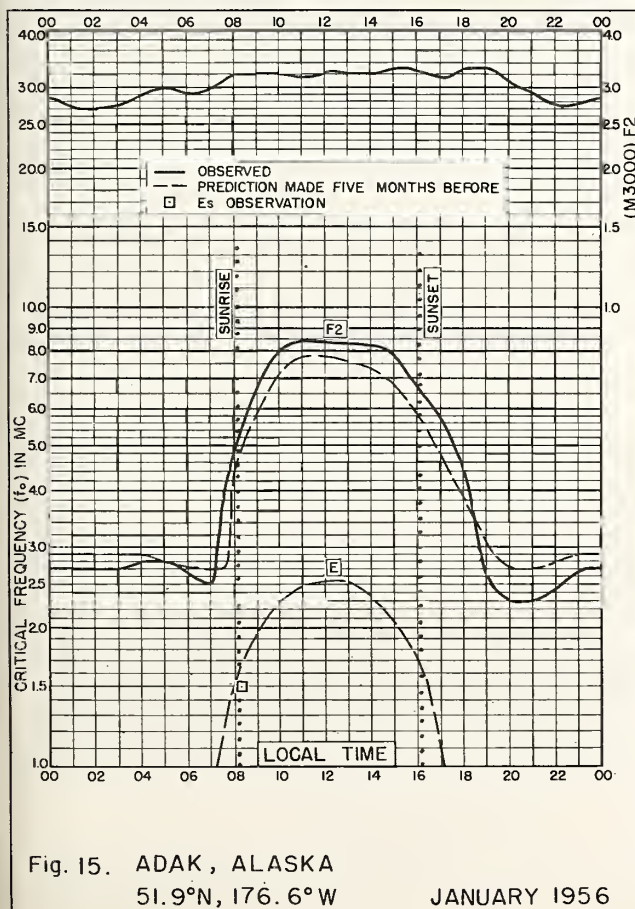
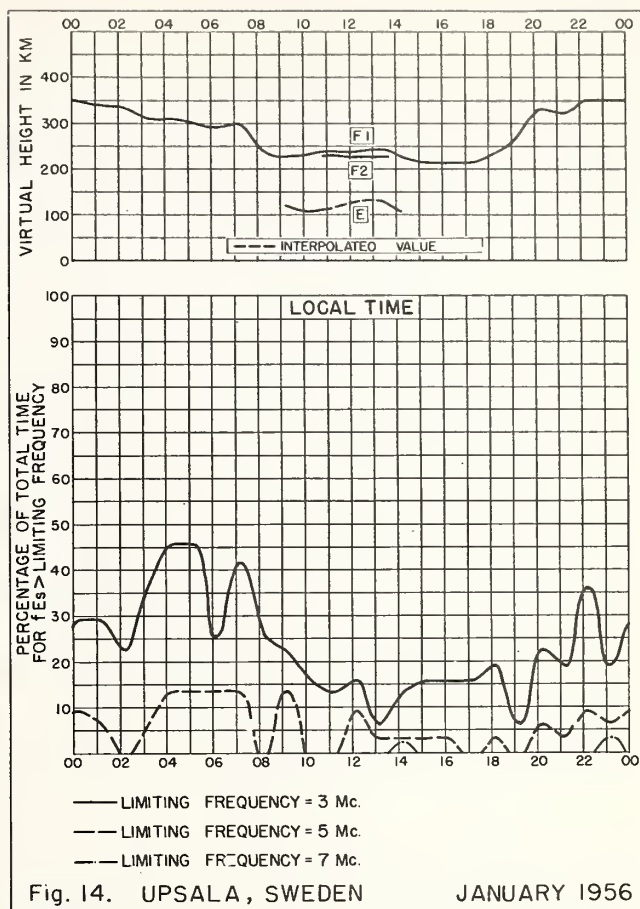
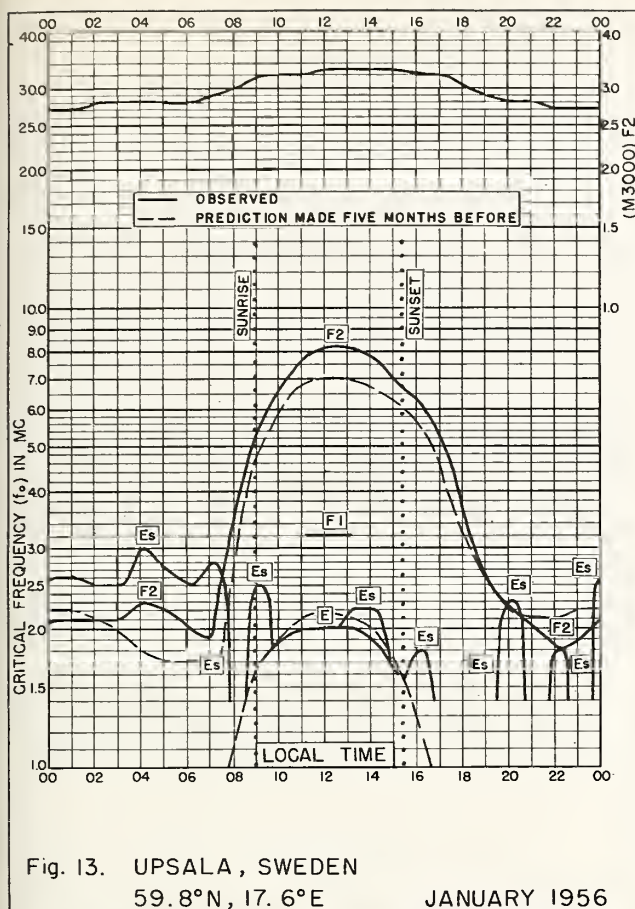


Fig. 12. OSLO, NORWAY

JANUARY 1956

NBS 490

U. S. GOVERNMENT PRINTING OFFICE: 1957



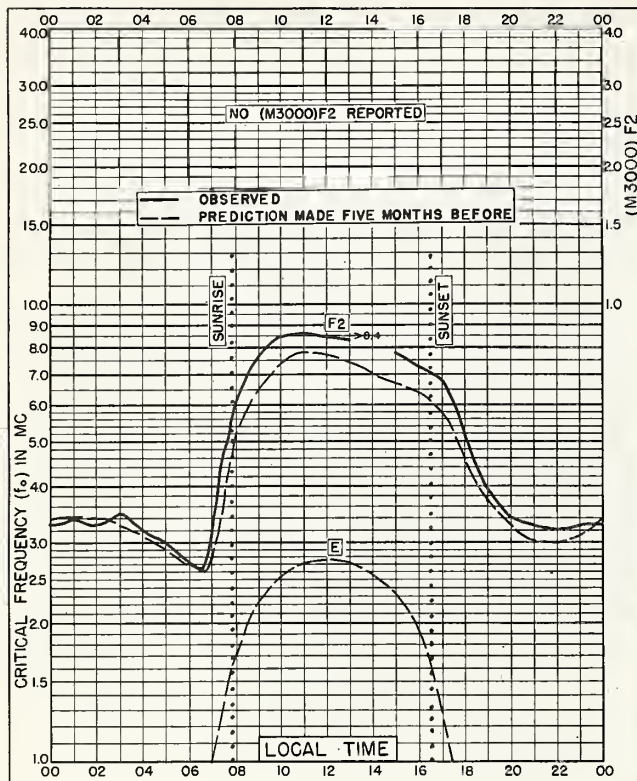


Fig. 17. GRAZ, AUSTRIA
47.1°N, 15.5°E
JANUARY 1956

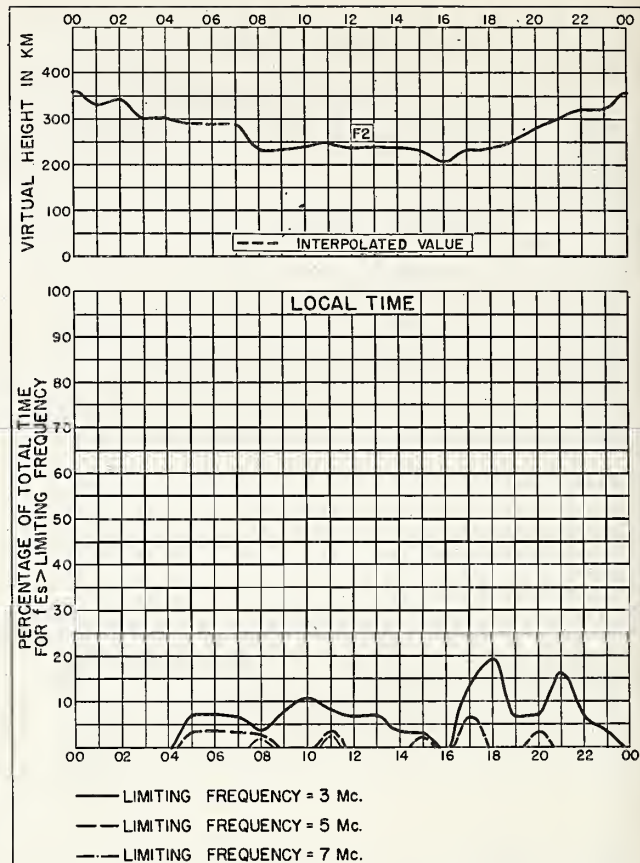


Fig. 18. GRAZ, AUSTRIA
JANUARY 1956

NBS 490

U. S. GOVERNMENT PRINTING OFFICE 158977

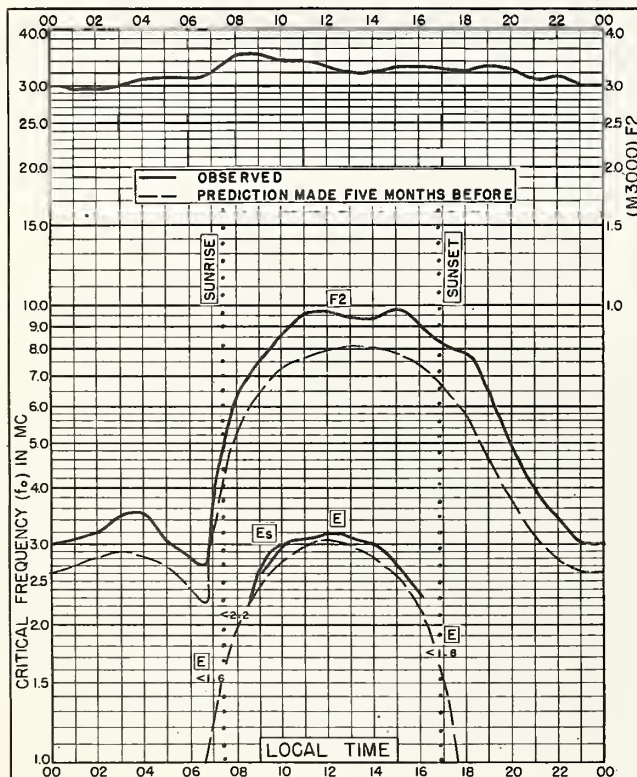


Fig. 19. FT. MONMOUTH, NEW JERSEY
40.3°N, 74.1°W
JANUARY 1956

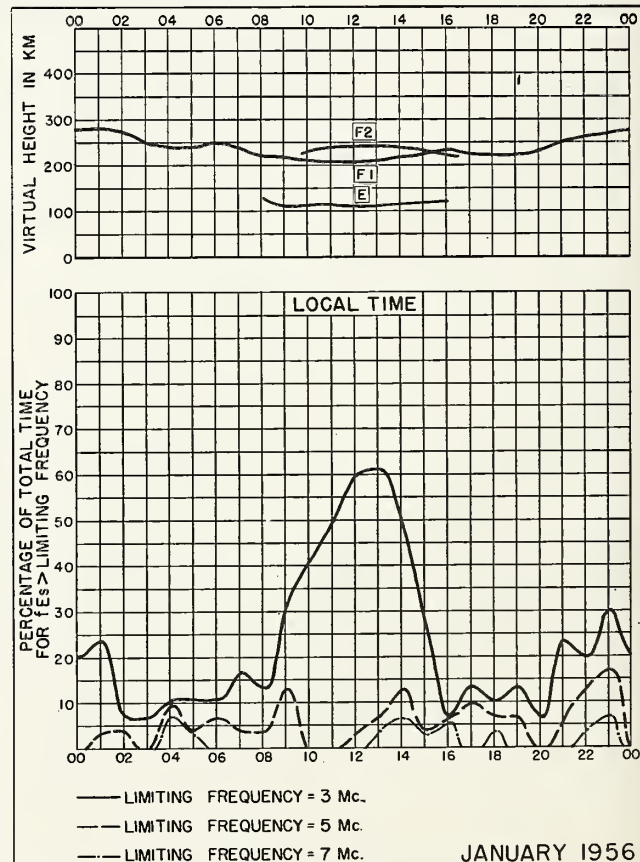


Fig. 20. FT. MONMOUTH, NEW JERSEY
JANUARY 1956

NBS 490

U. S. GOVERNMENT PRINTING OFFICE 158977

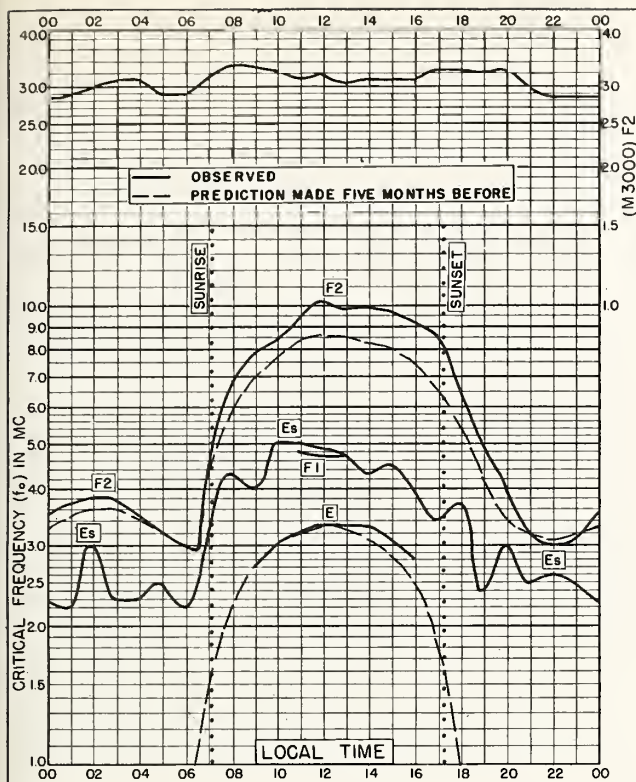
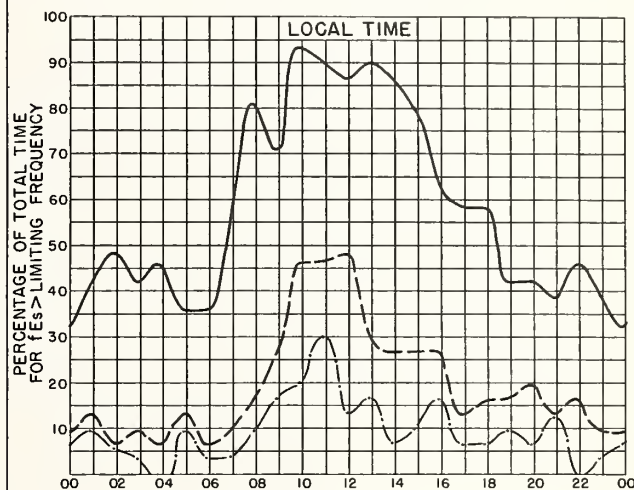
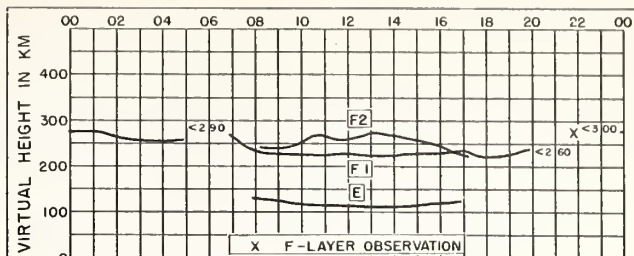


Fig. 21. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W JANUARY 1956



— LIMITING FREQUENCY = 3 Mc.
 --- LIMITING FREQUENCY = 5 Mc.
 - · - LIMITING FREQUENCY = 7 Mc.

JANUARY 1956

Fig. 22. WHITE SANDS, NEW MEXICO

NBS 490

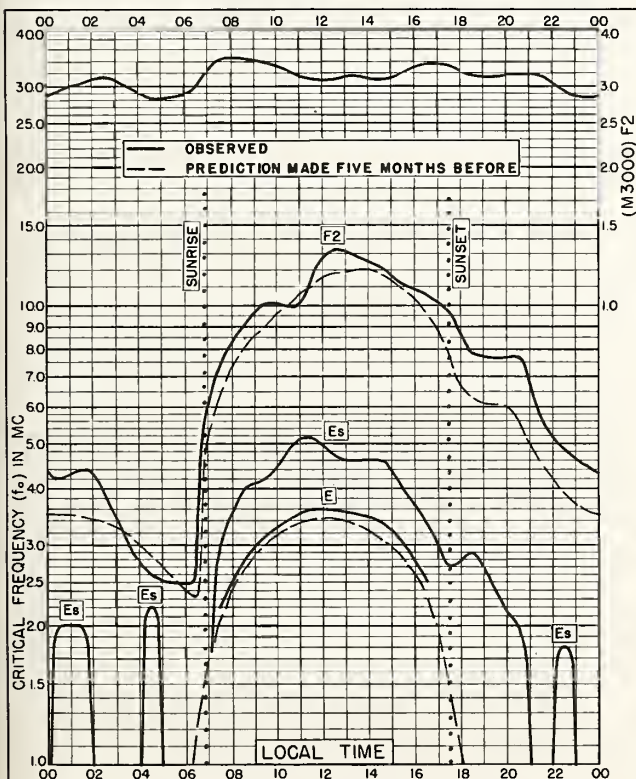
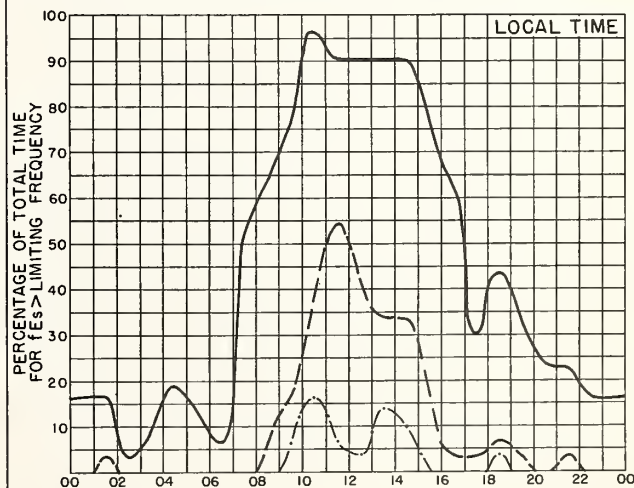
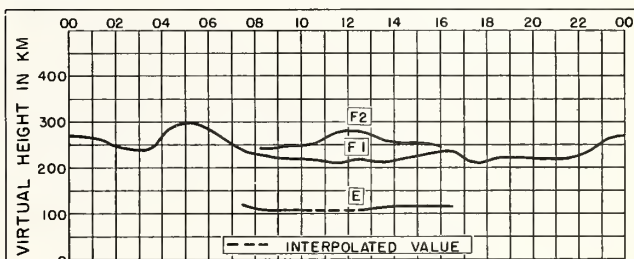


Fig. 23. OKINAWA I.
26.3°N, 127.8°E JANUARY 1956



— LIMITING FREQUENCY = 3 Mc.
 --- LIMITING FREQUENCY = 5 Mc.
 - · - LIMITING FREQUENCY = 7 Mc.

JANUARY 1956

Fig. 24. OKINAWA I.

NBS 490

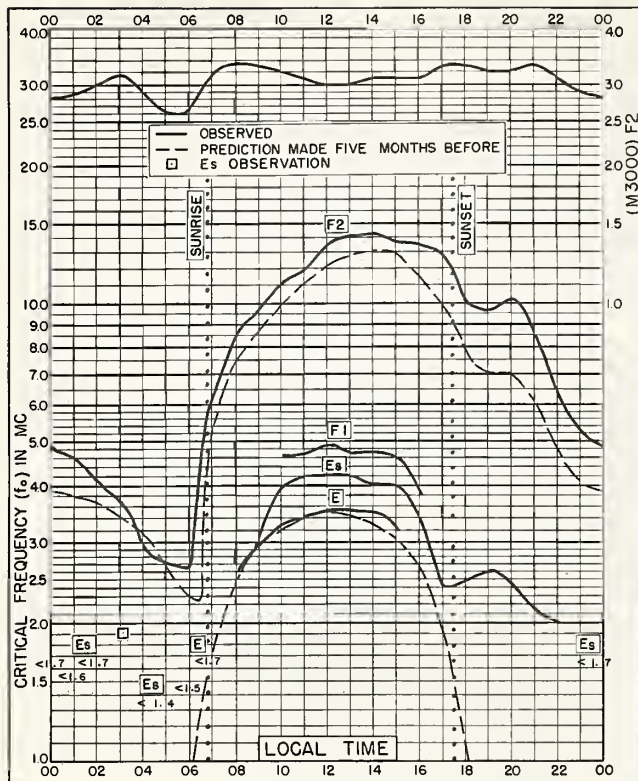


Fig. 25. FORMOSA, CHINA

25.0°N, 121.5°E

JANUARY 1956

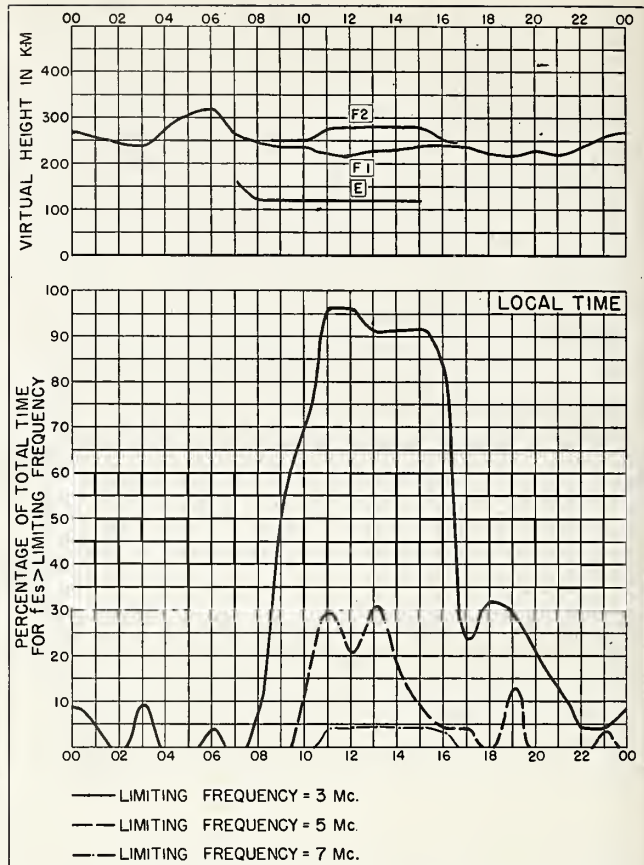


Fig. 26. FORMOSA, CHINA

JANUARY 1956

NBS 490

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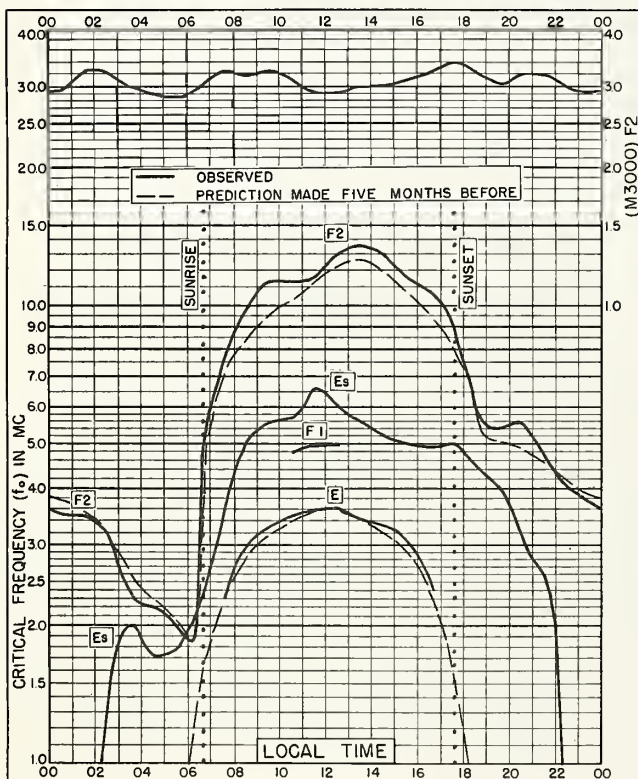


Fig. 27. MAUI, HAWAII

20.8°N, 156.5°W

JANUARY 1956

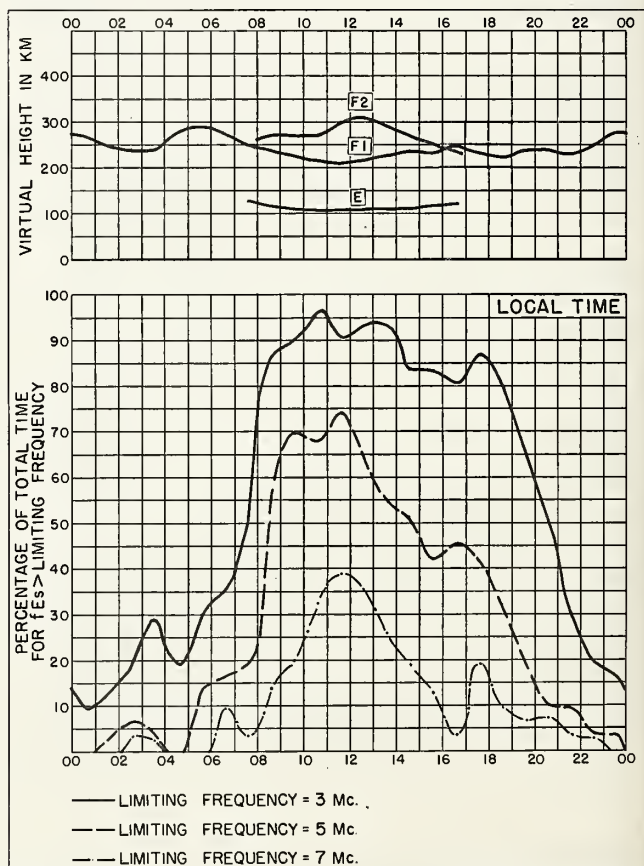


Fig. 28. MAUI, HAWAII

JANUARY 1956

NBS 490

U. S. GOVERNMENT PRINTING OFFICE: 1957

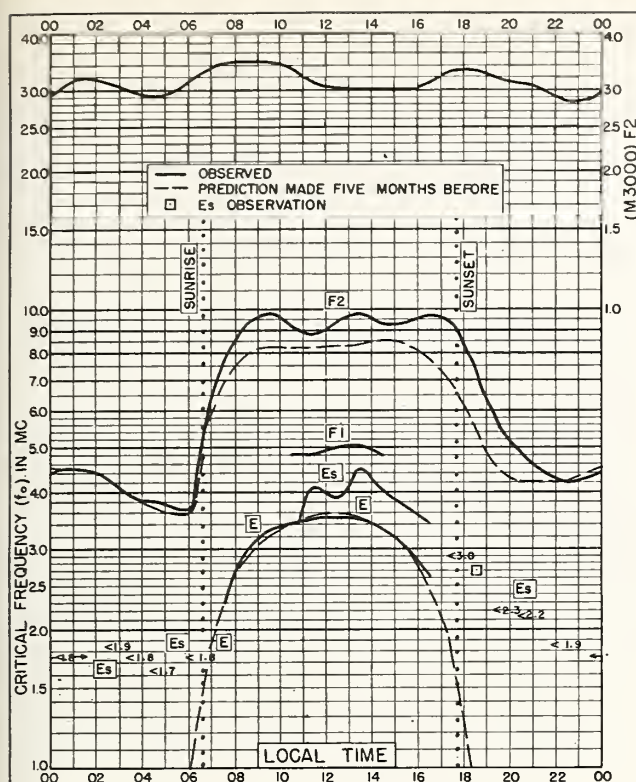


Fig. 29. PUERTO RICO, W. I.
18.5°N, 67.2°W

JANUARY 1956

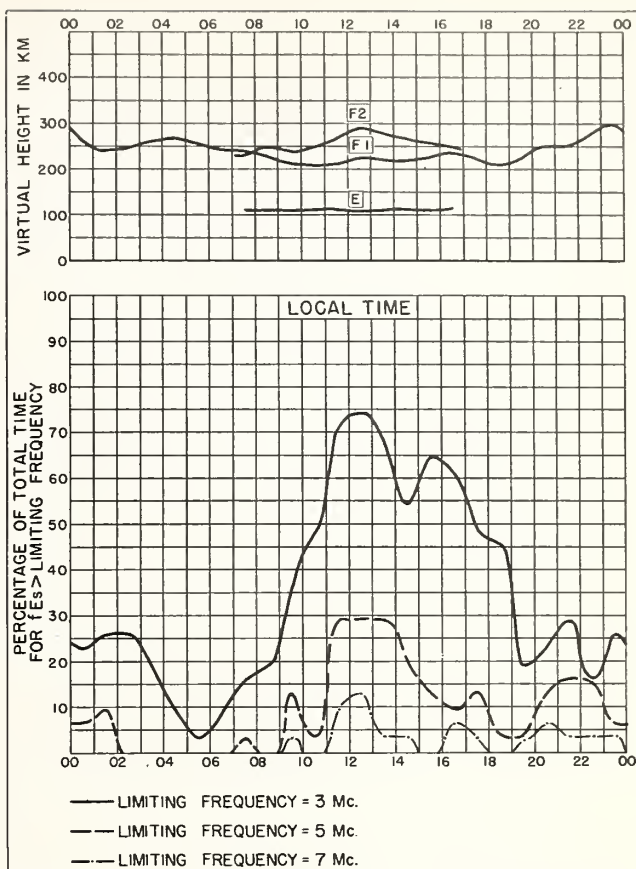


Fig. 30. PUERTO RICO, W. I.

JANUARY 1956

NBS 490

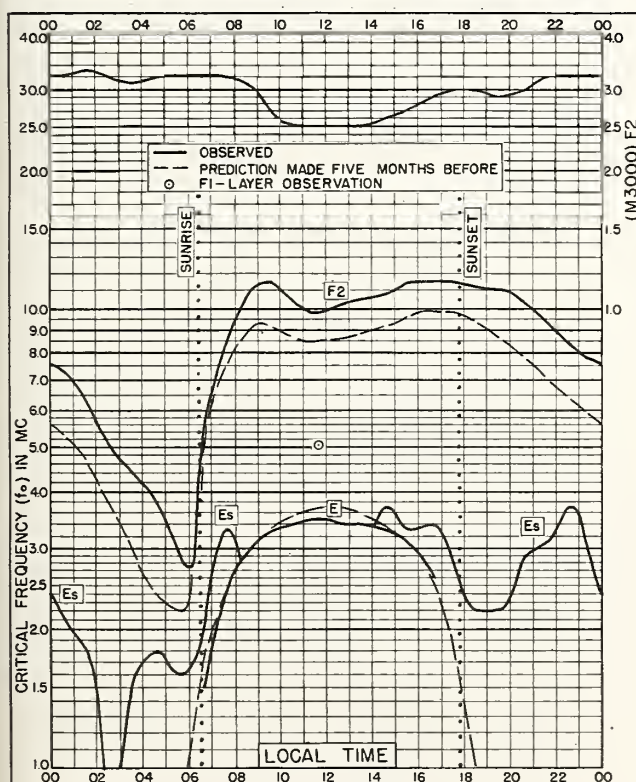


Fig. 31. GUAM I.
13.6°N, 144.9°E

JANUARY 1956

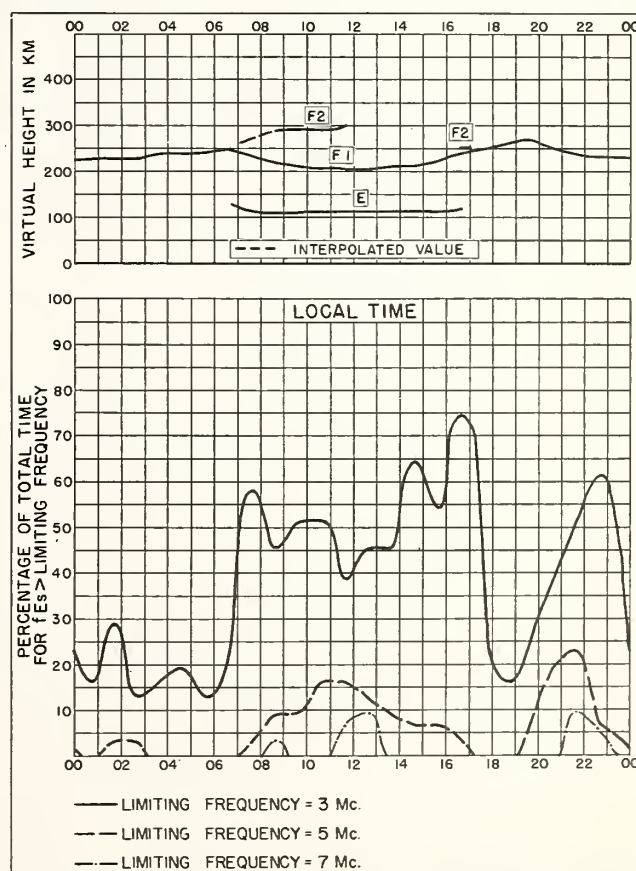


Fig. 32. GUAM I.

JANUARY 1956

NBS 490

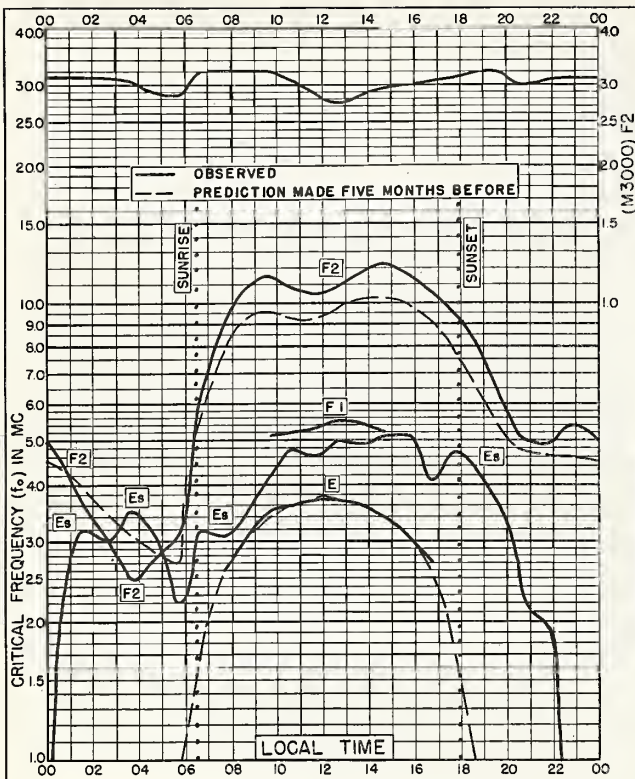


Fig. 33. PANAMA CANAL ZONE
9.4°N, 79.9°W JANUARY 1956

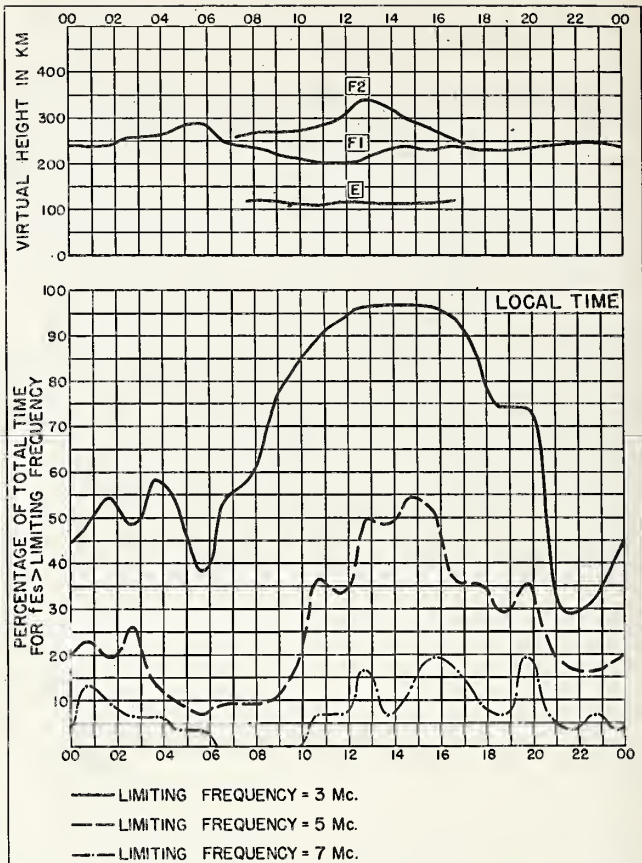


Fig. 34. PANAMA CANAL ZONE JANUARY 1956

NBS 490

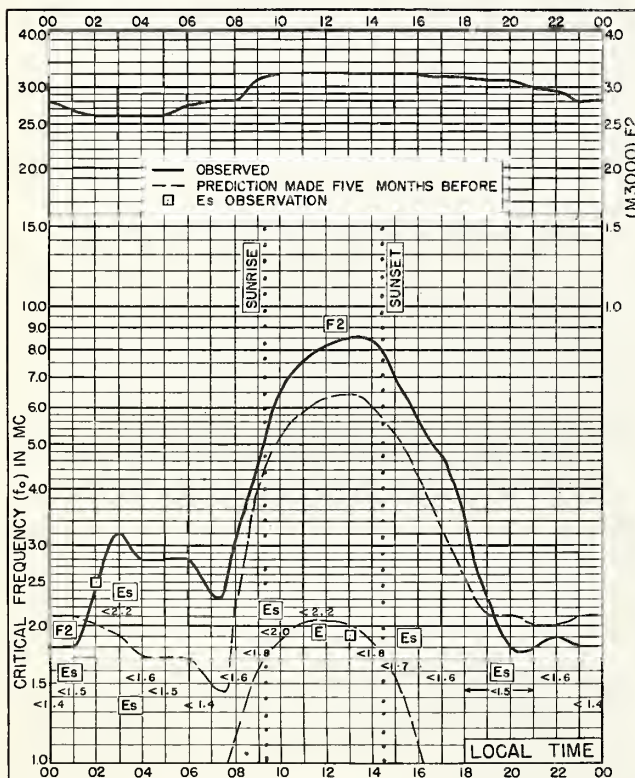


Fig. 35. ANCHORAGE, ALASKA
61.2°N, 149.9°W DECEMBER 1955

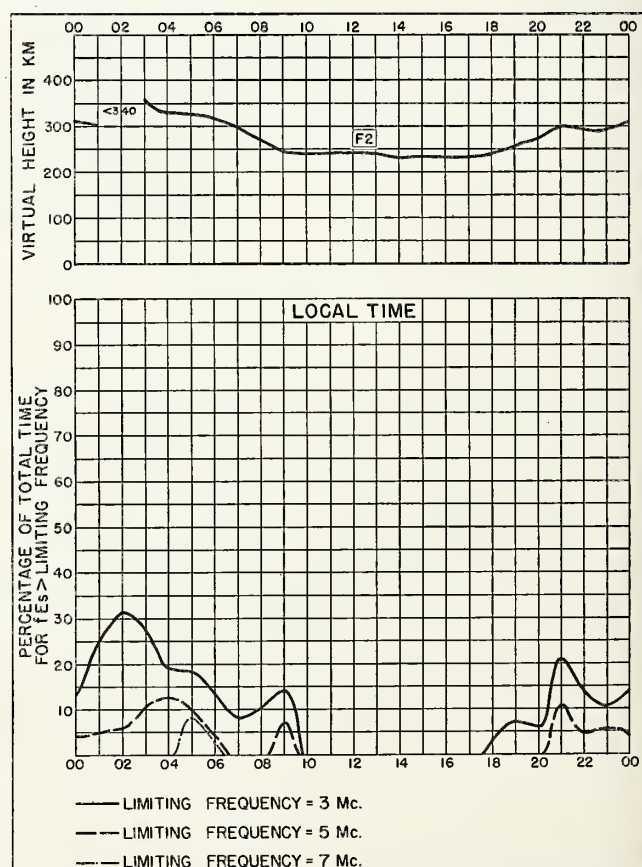


Fig. 36. ANCHORAGE, ALASKA DECEMBER 1955

NBS 490

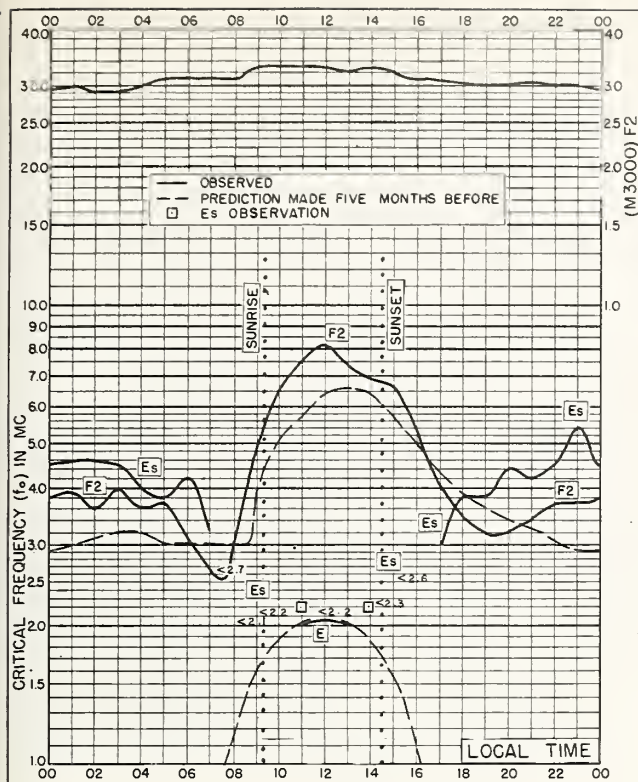


Fig. 37. NARSARSSUAK, GREENLAND
61.2°N, 45.4°W DECEMBER 1955

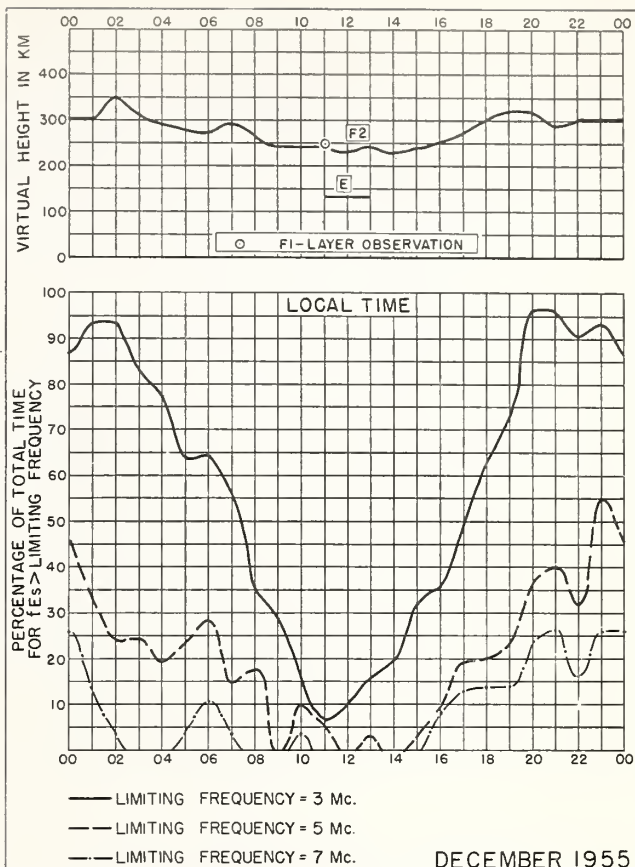


Fig. 38. NARSARSSUAK, GREENLAND DECEMBER 1955

NBS 490

U. S. GOVERNMENT PRINTING OFFICE: 1957

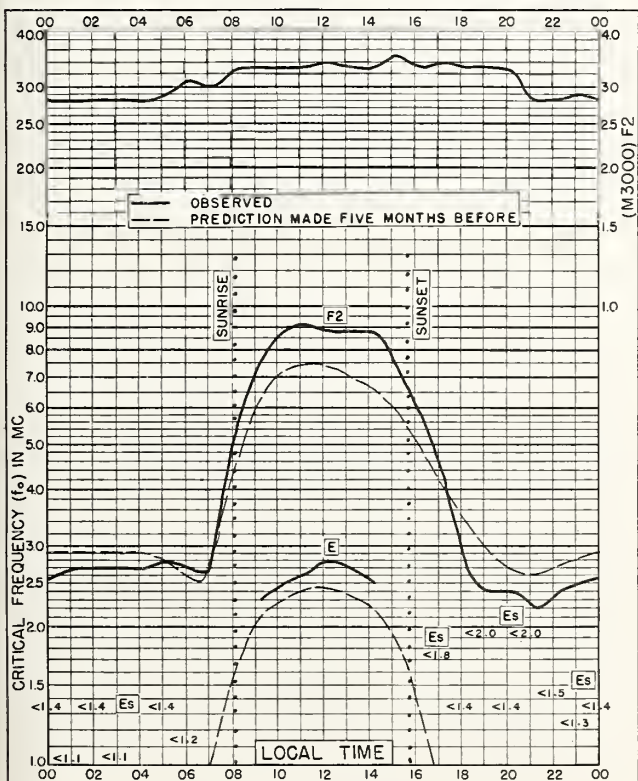


Fig. 39. ADAK, ALASKA
51.9°N, 176.6°W DECEMBER 1955

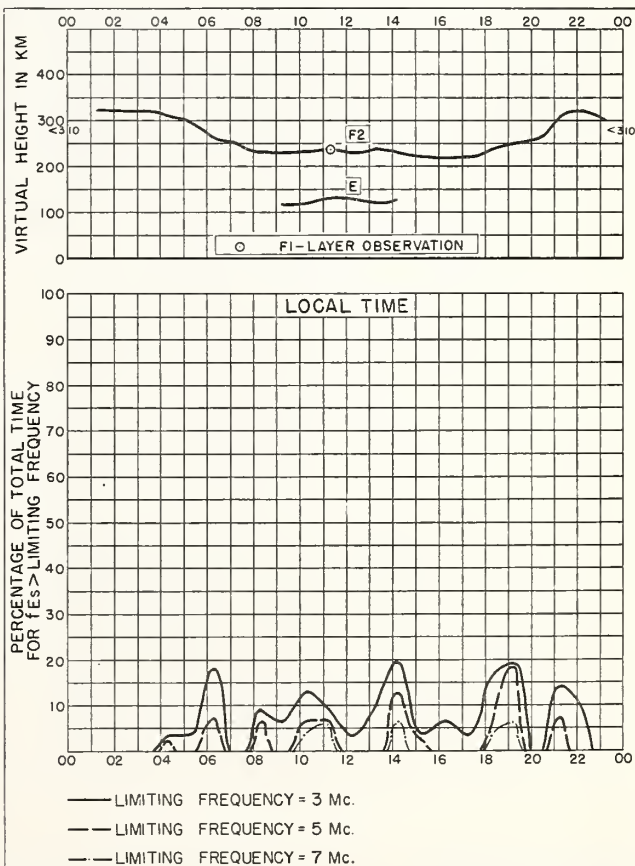


Fig. 40. ADAK, ALASKA DECEMBER 1955

NBS 490

U. S. GOVERNMENT PRINTING OFFICE: 1957

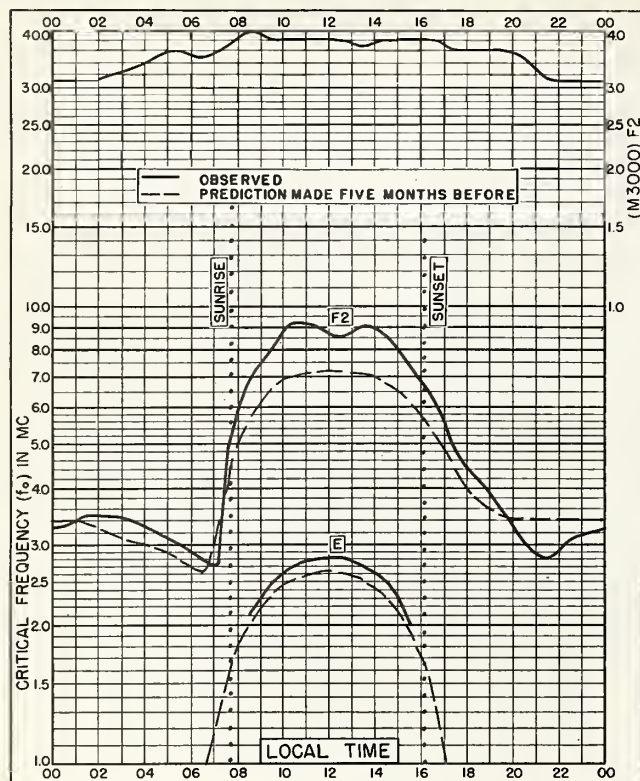


Fig. 41. SCHWARZENBURG, SWITZERLAND
46.8°N, 7.3°E
DECEMBER 1955

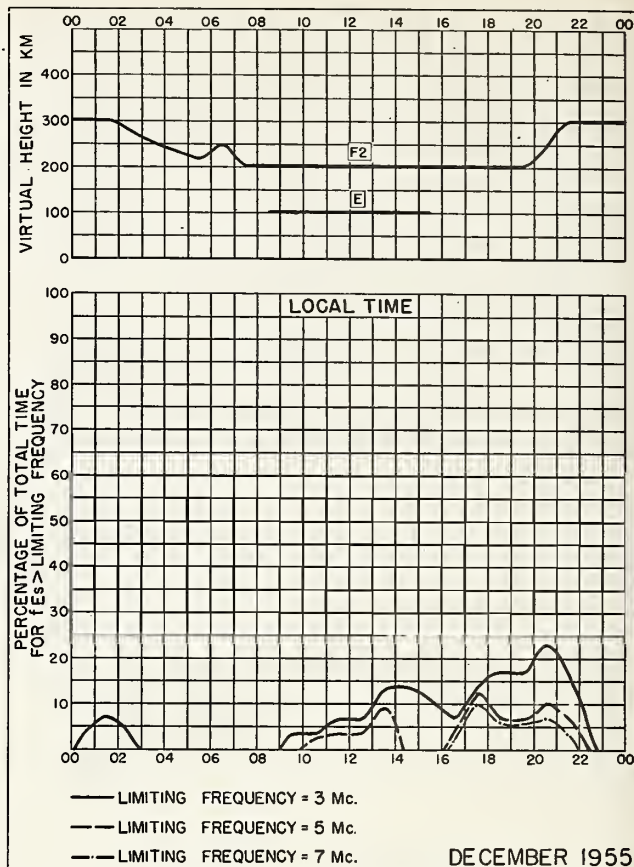


Fig. 42. SCHWARZENBURG, SWITZERLAND

NBS 490

U.S. GOVERNMENT PRINTING OFFICE 13-5877

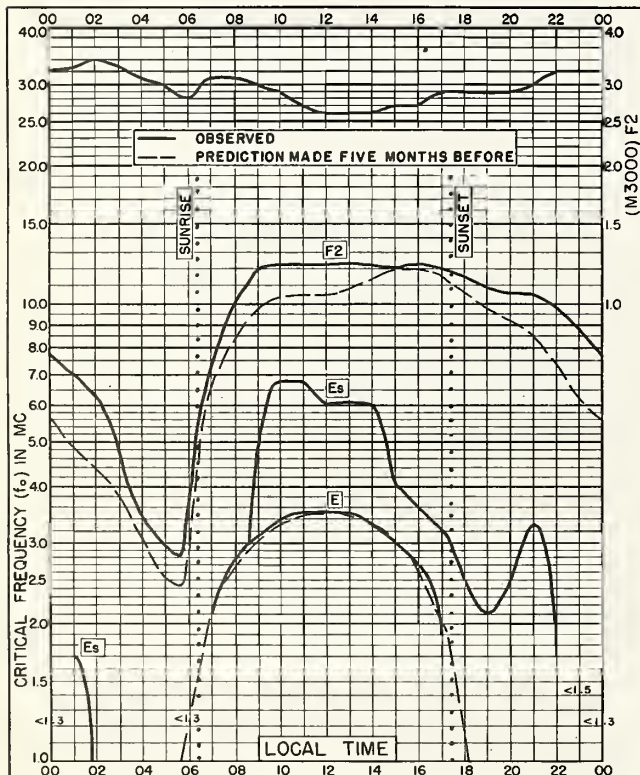


Fig. 43. BAGUIO, P. I.
16.4°N, 120.6°E
DECEMBER 1955

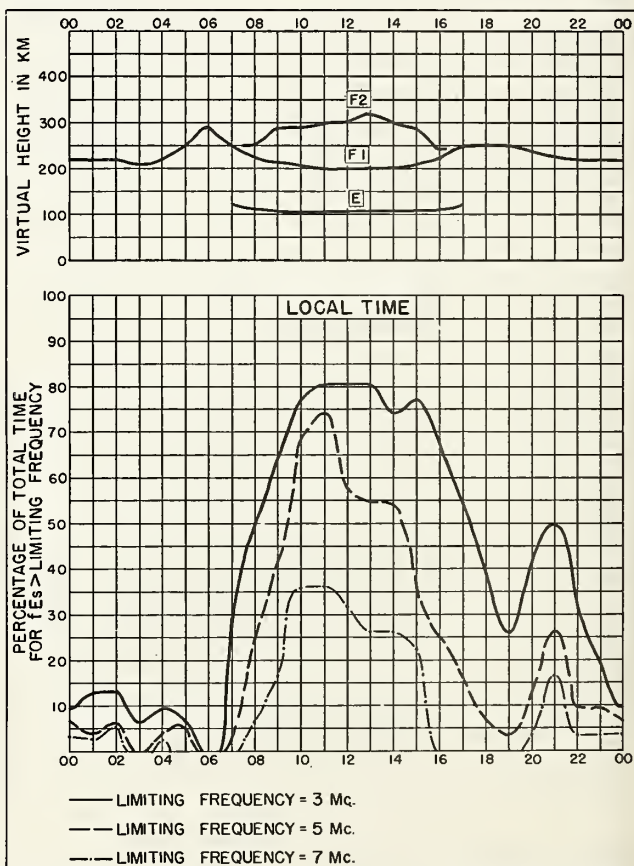


Fig. 44. BAGUIO, P. I.

DECEMBER 1955

NBS 490

U.S. GOVERNMENT PRINTING OFFICE 13-5877

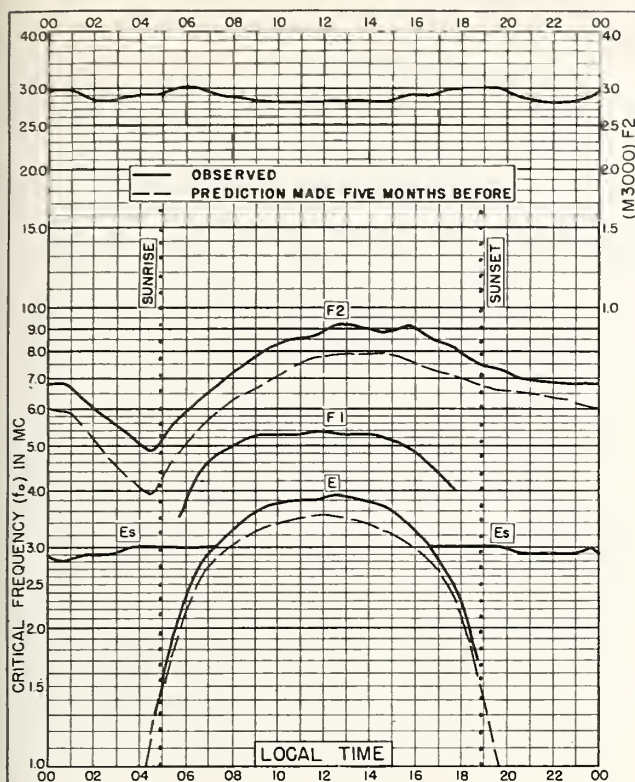


Fig. 45. WATHEROO, W. AUSTRALIA
30. 3°S, 115. 9°E DECEMBER 1955

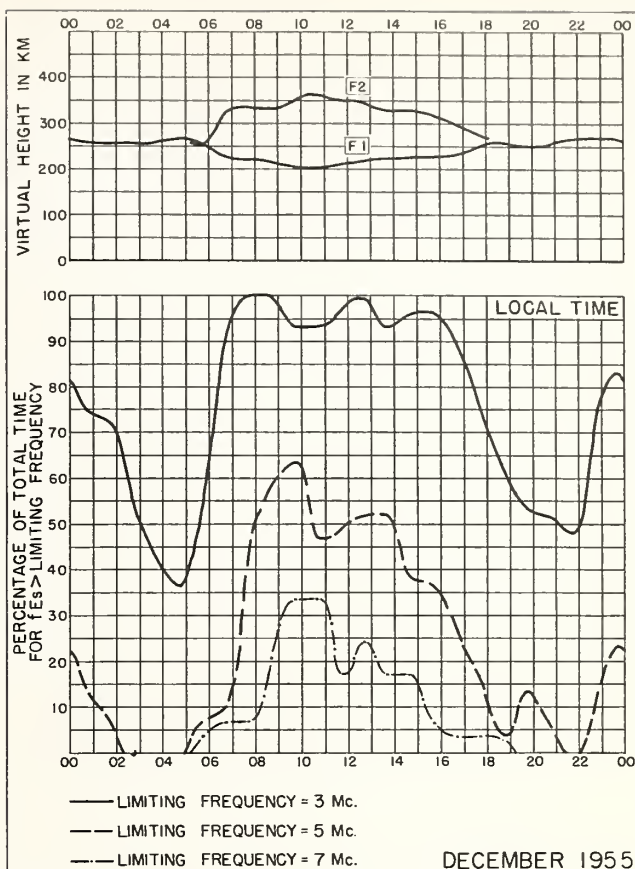


Fig. 46. WATHEROO, W. AUSTRALIA

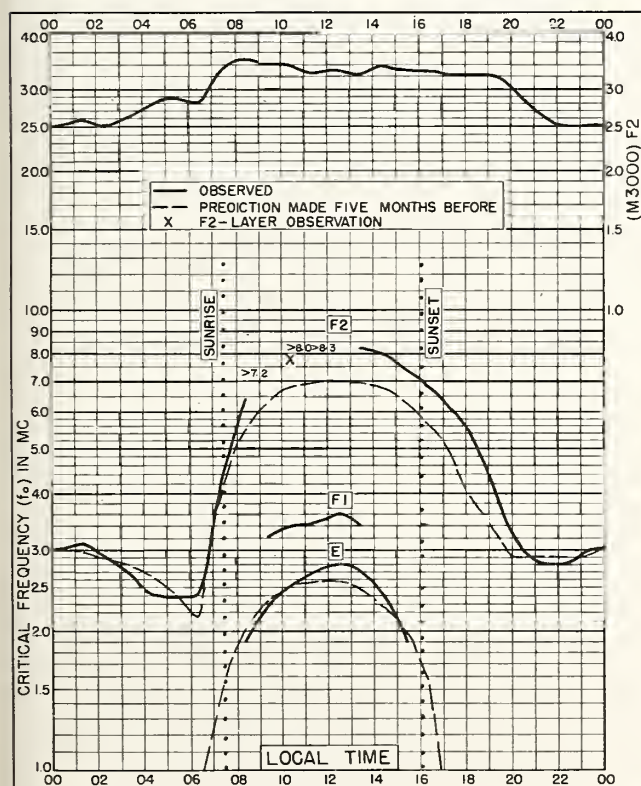


Fig. 47. De BILT, HOLLAND
52.1°N, 5.2°E NOVEMBER 1955

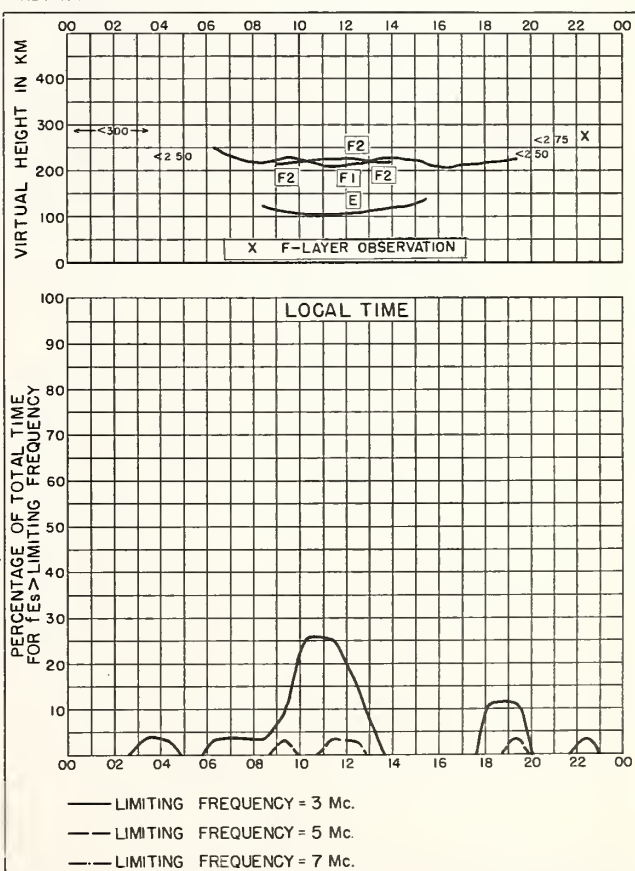


Fig. 48. De BILT, HOLLAND NOVEMBER 1955

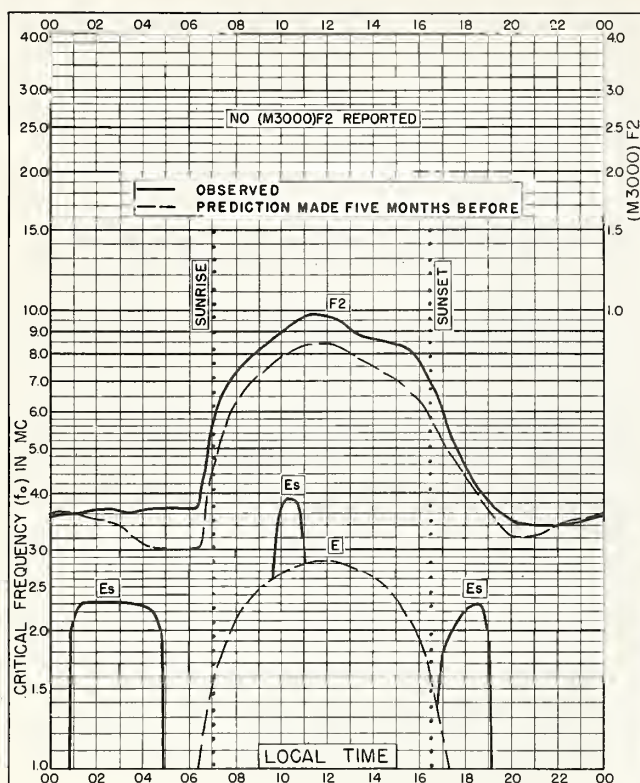


Fig. 49. WAKKANAI, JAPAN
45.4°N, 141.7°E NOVEMBER 1955

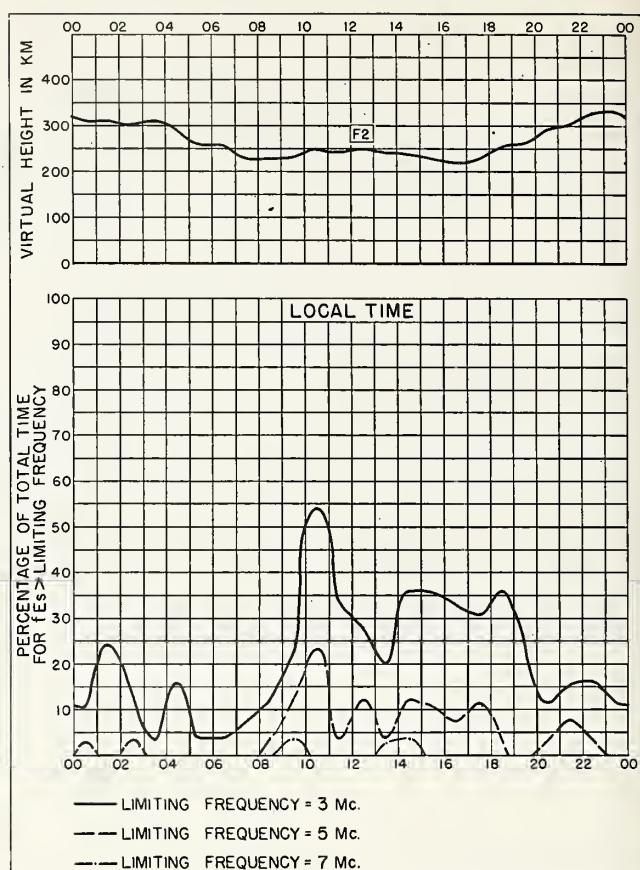


Fig. 50. WAKKANAI, JAPAN NOVEMBER 1955

NBS 490

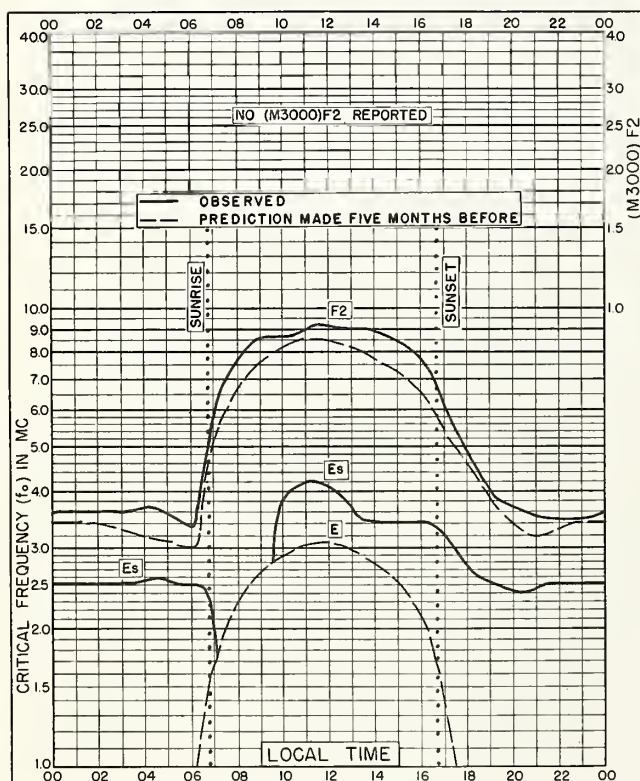


Fig. 51. AKITA, JAPAN
39.7°N, 140.1°E NOVEMBER 1955

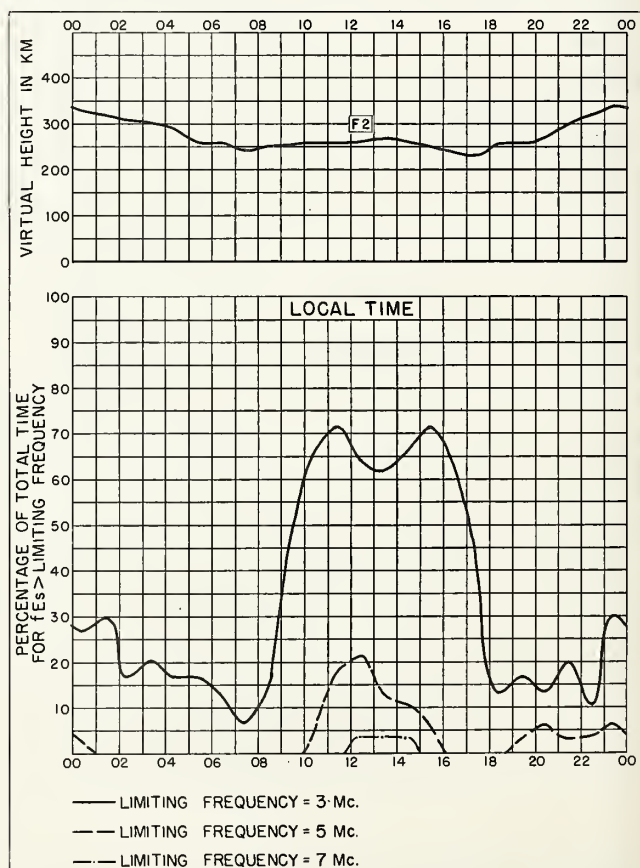


Fig. 52. AKITA, JAPAN NOVEMBER 1955

NBS 490

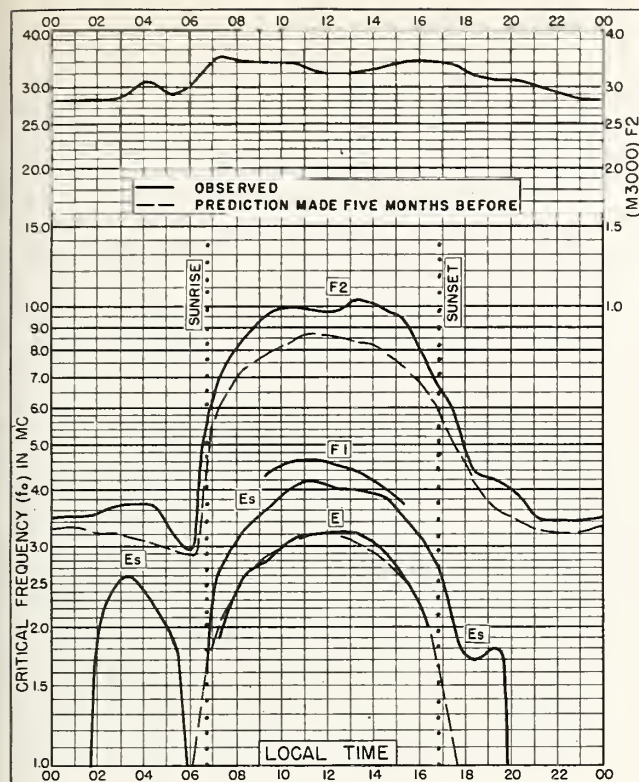


Fig. 53. TOKYO, JAPAN
35.7°N, 139.5°E NOVEMBER 1955

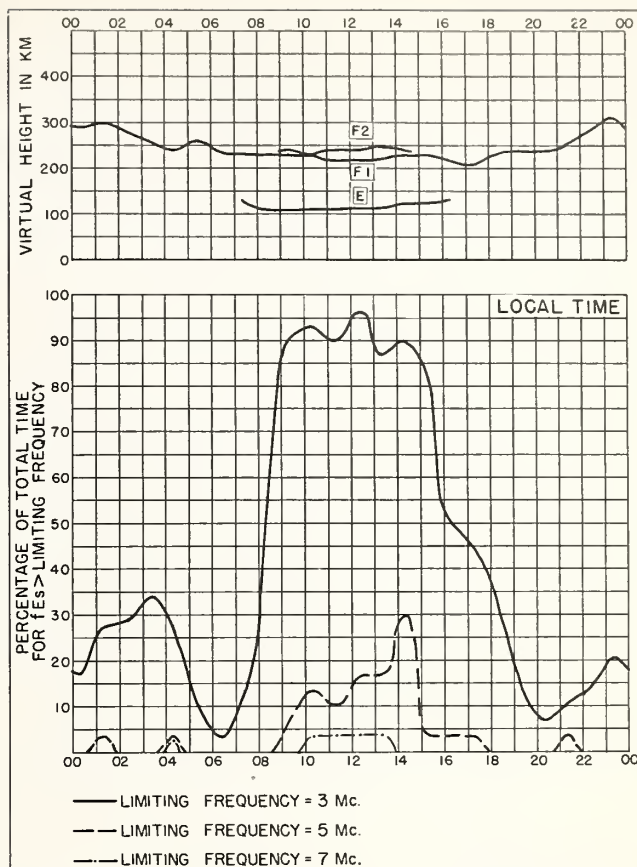


Fig. 54. TOKYO, JAPAN NOVEMBER 1955

NBS 490

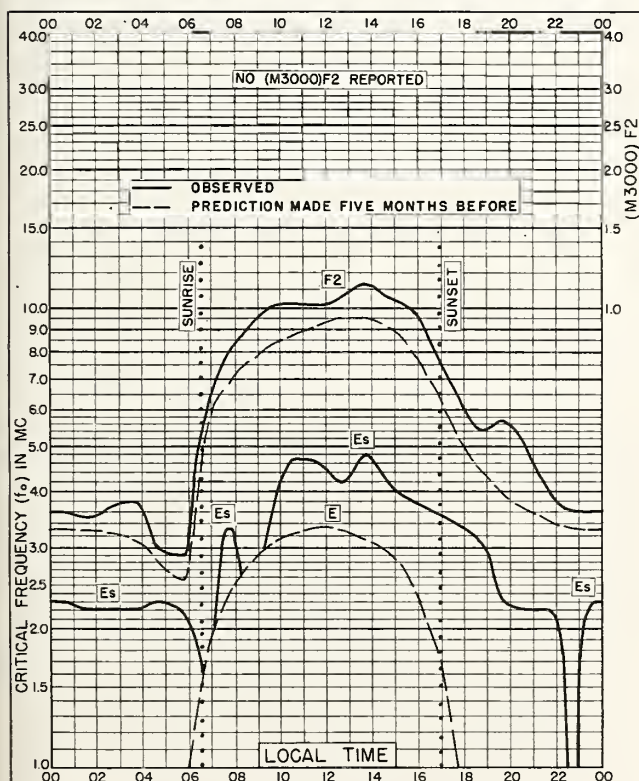


Fig. 55. YAMAGAWA, JAPAN
31.2°N, 130.6°E NOVEMBER 1955

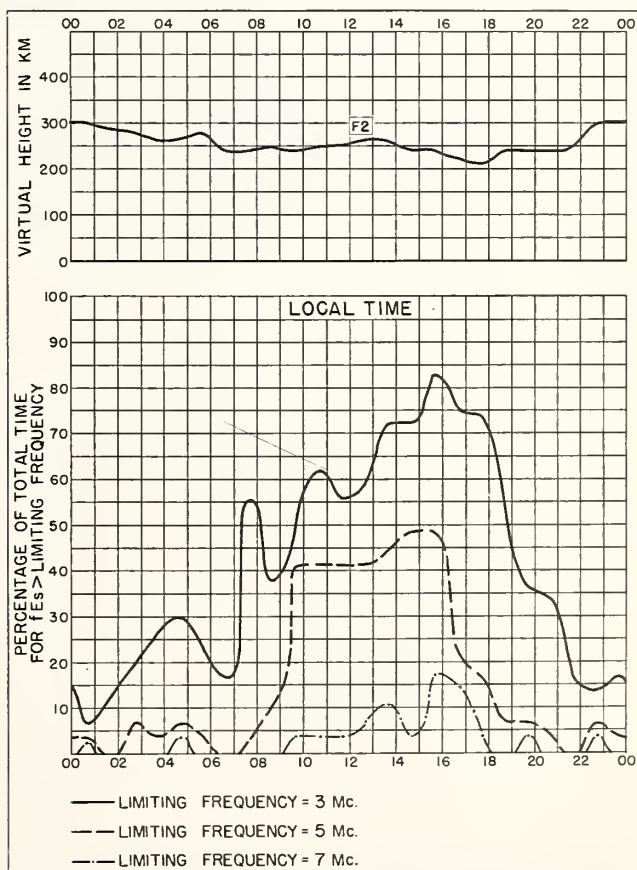


Fig. 56. YAMAGAWA, JAPAN NOVEMBER 1955

NBS 490

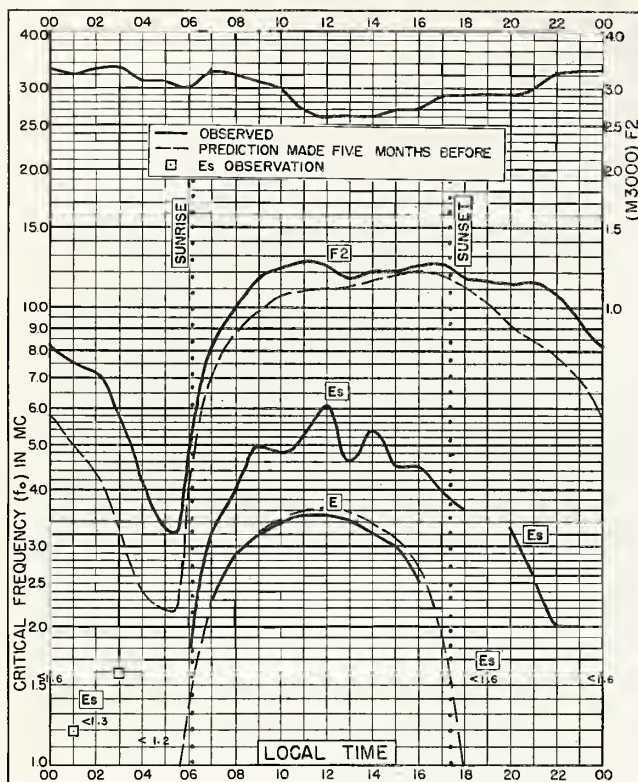


Fig. 57. BAGUIO, P. I.

16.4°N, 120.6°E

NOVEMBER 1955

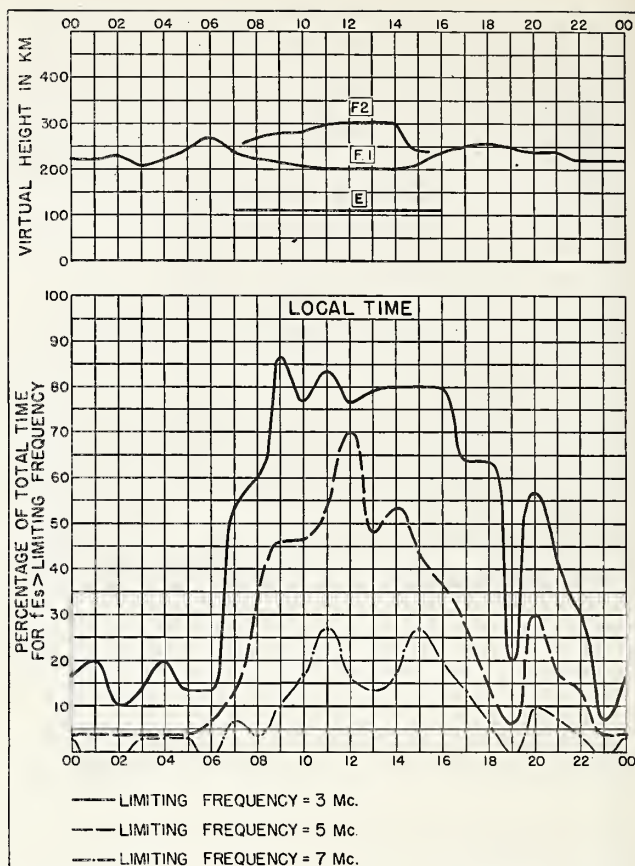


Fig. 58. BAGUIO, P. I.

NOVEMBER 1955

NBS 490

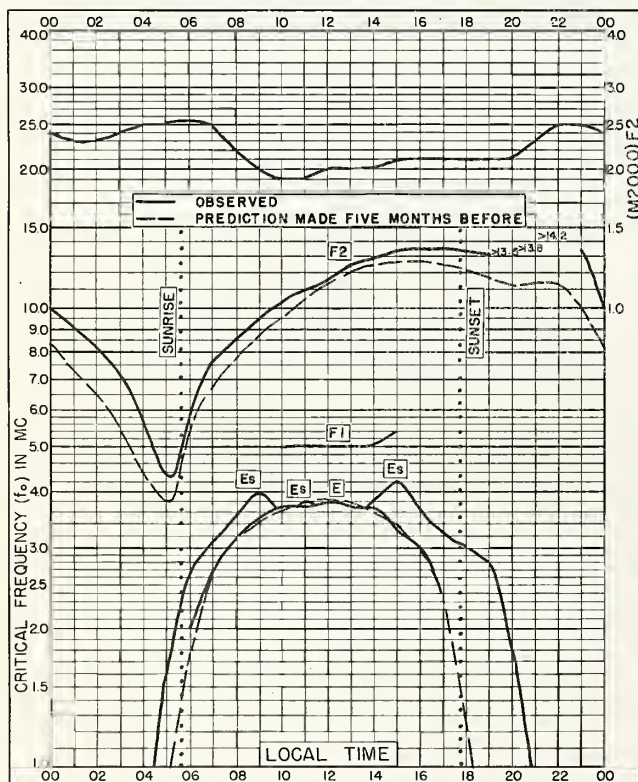


Fig. 59. LEOPOLDVILLE, BELGIAN CONGO

4.4°S, 15.2°E

NOVEMBER 1955

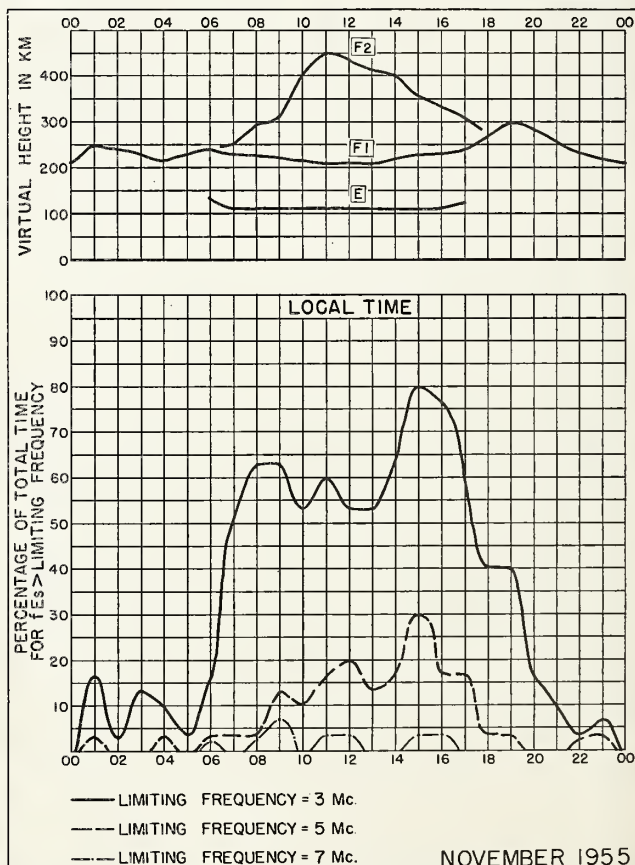


Fig. 60. LEOPOLDVILLE, BELGIAN CONGO

NOVEMBER 1955

NBS 490

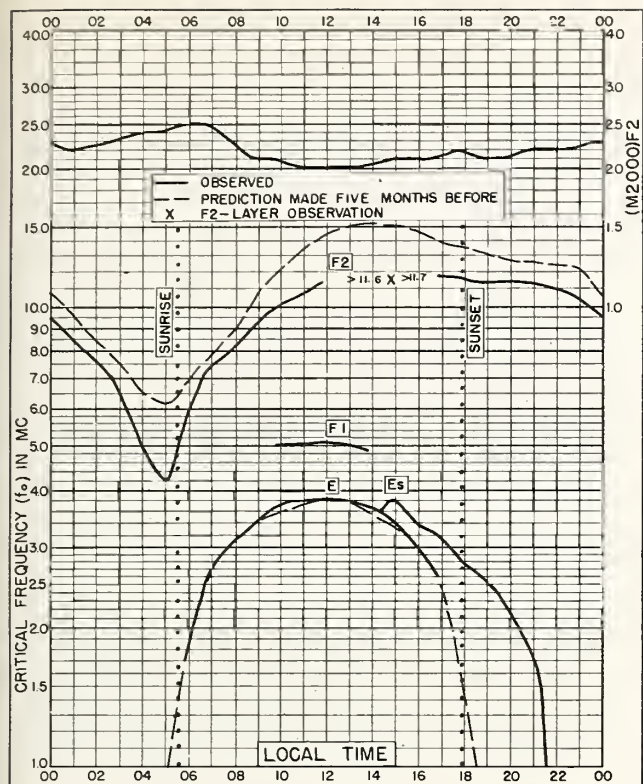


Fig. 61. ELISABETHVILLE, BELGIAN CONGO
11.6°S, 27.5°E NOVEMBER 1955

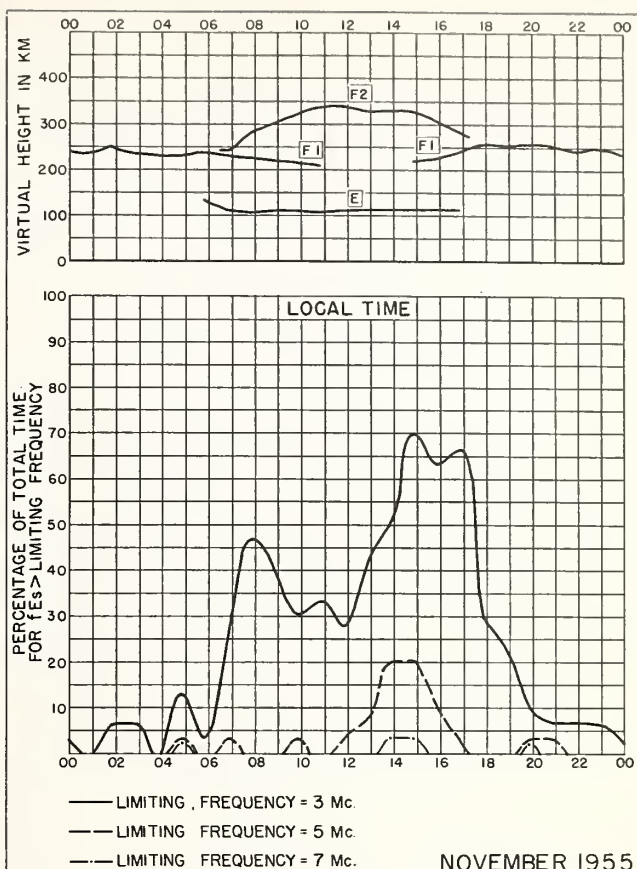


Fig. 62. ELISABETHVILLE, BELGIAN CONGO
NOVEMBER 1955

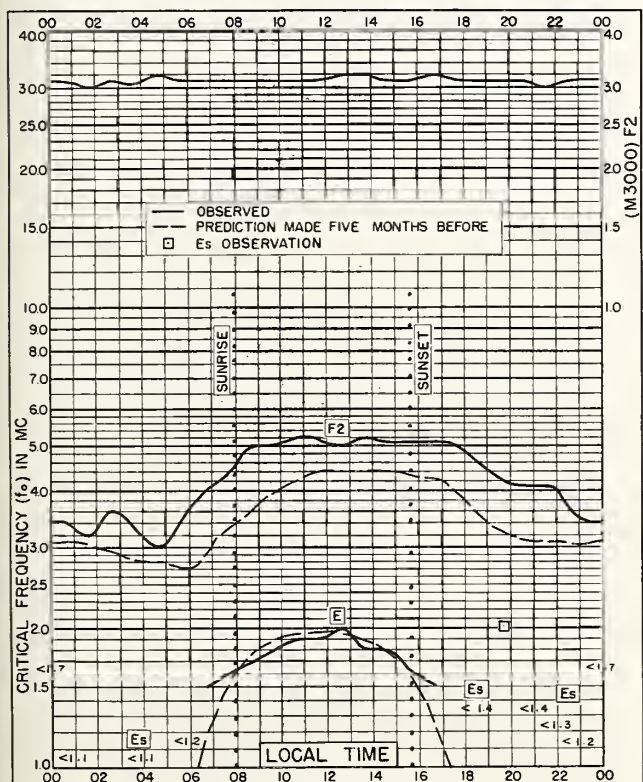


Fig. 63. RESOLUTE BAY, CANADA
74.7°N, 94.9°W OCTOBER 1955

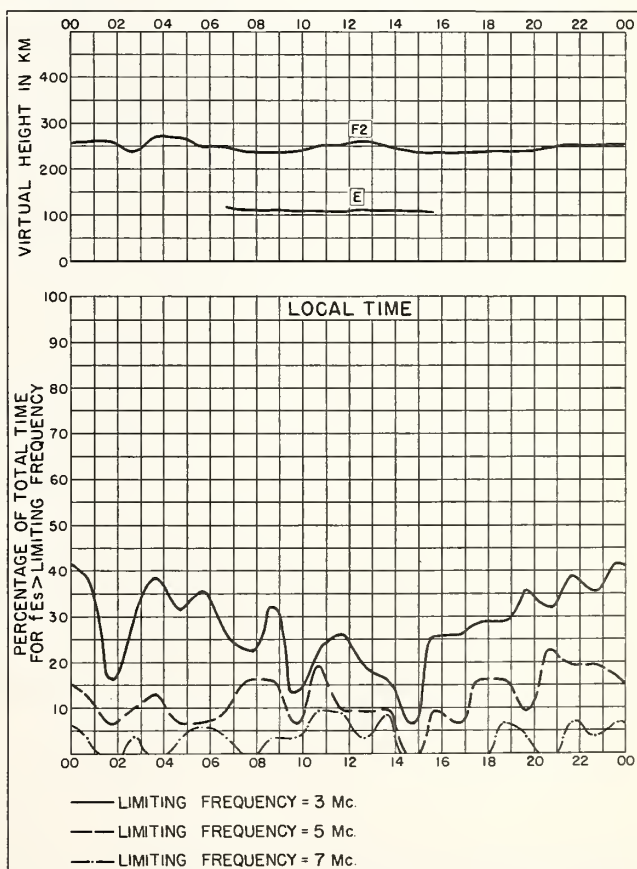


Fig. 64. RESOLUTE BAY, CANADA OCTOBER 1955

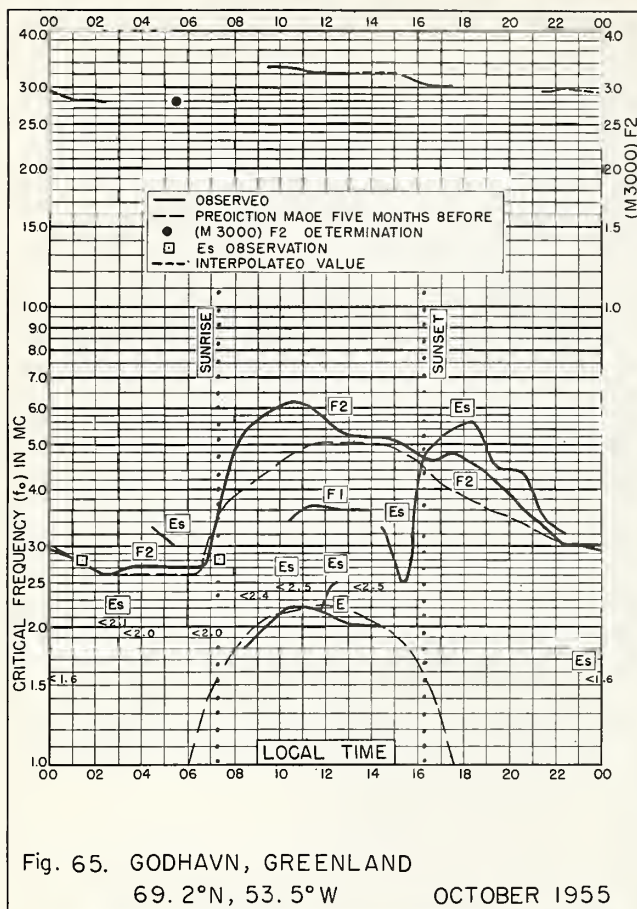


Fig. 65. GODHAVN, GREENLAND
69. 2°N, 53. 5°W OCTOBER 1955

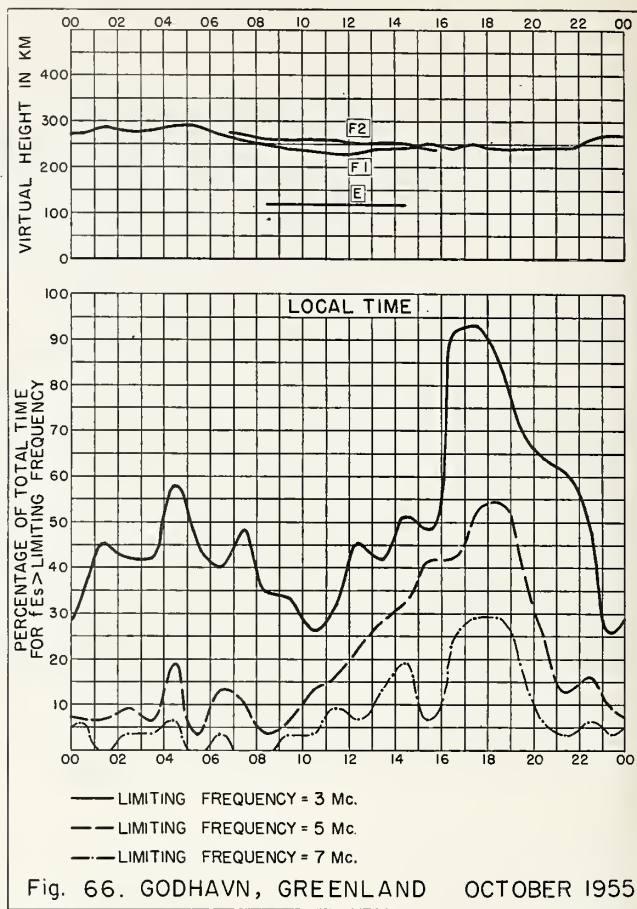


Fig. 66. GODHAVN, GREENLAND OCTOBER 1955

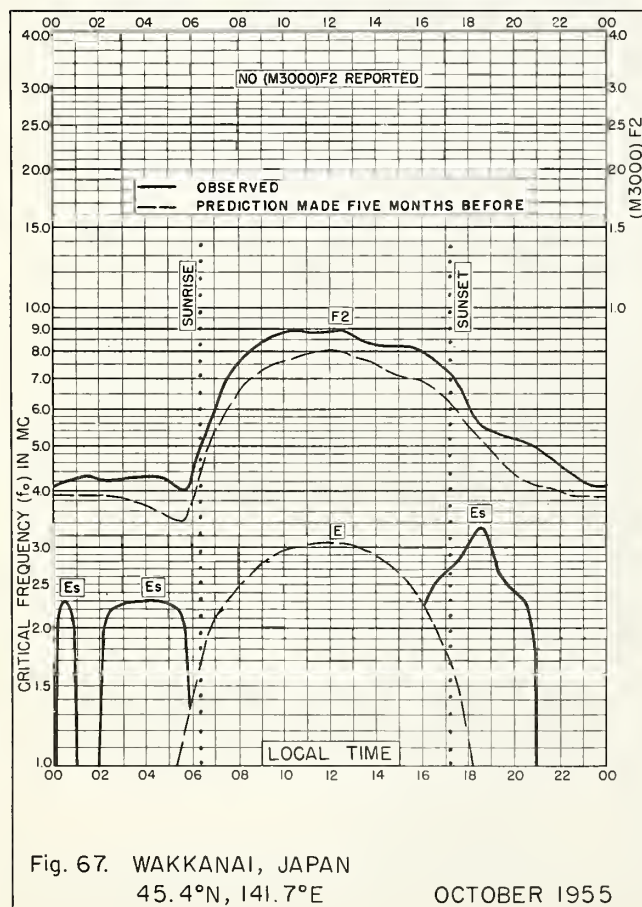


Fig. 67. WAKKANAI, JAPAN
45.4°N, 141.7°E OCTOBER 1955

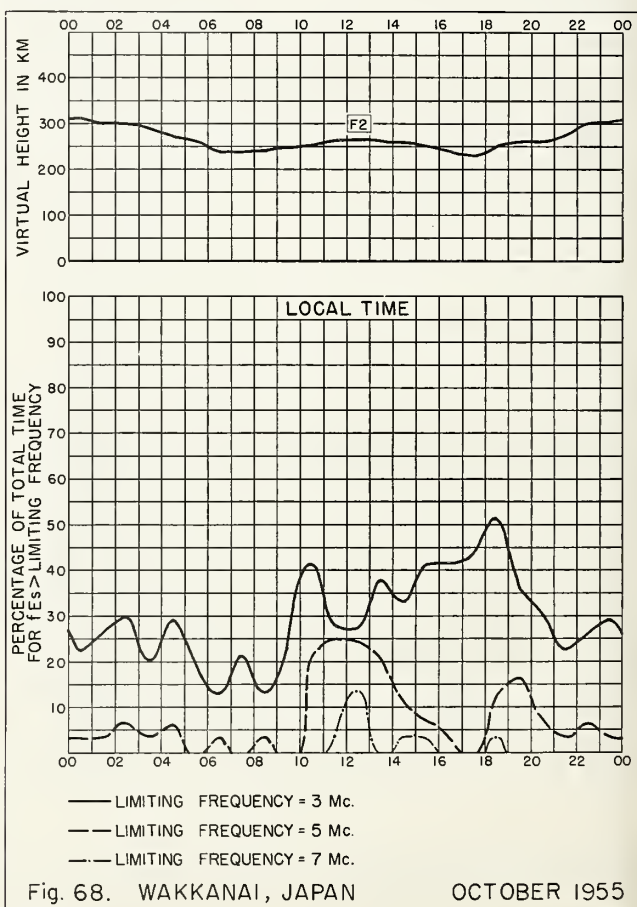


Fig. 68. WAKKANAI, JAPAN OCTOBER 1955

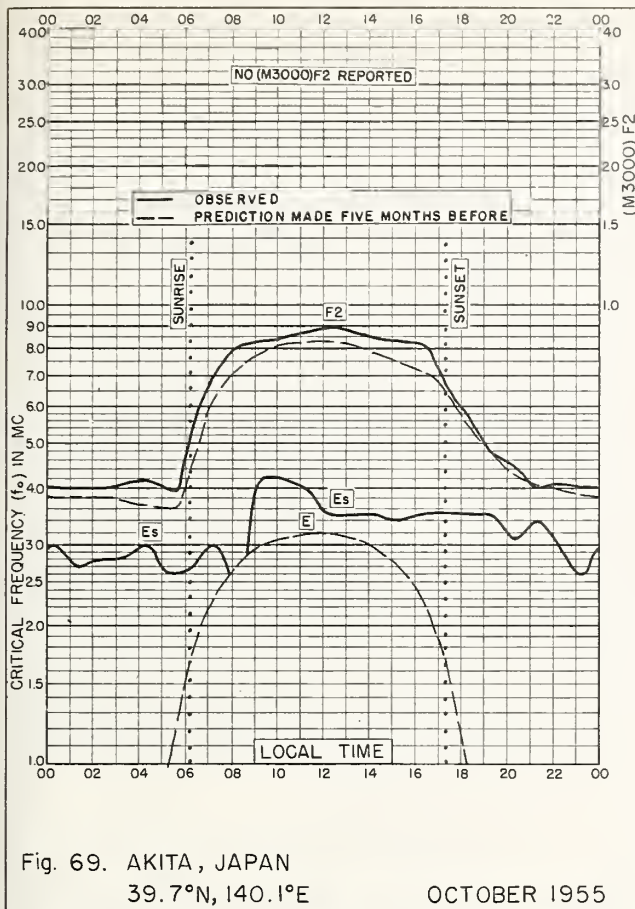


Fig. 69. AKITA, JAPAN
39.7°N, 140.1°E

OCTOBER 1955

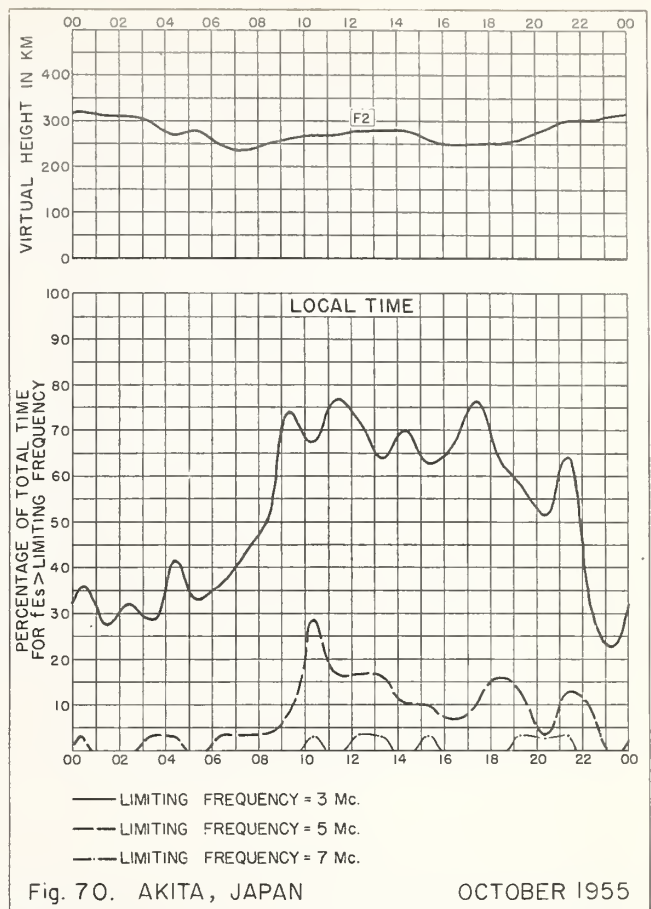


Fig. 70. AKITA, JAPAN

OCTOBER 1955

NBS 490

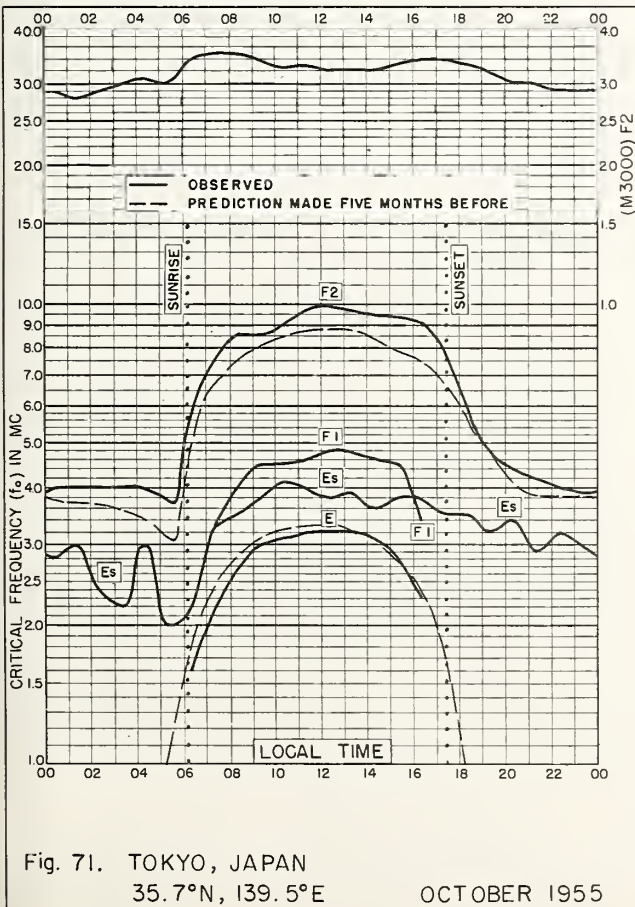


Fig. 71. TOKYO, JAPAN
35.7°N, 139.5°E

OCTOBER 1955

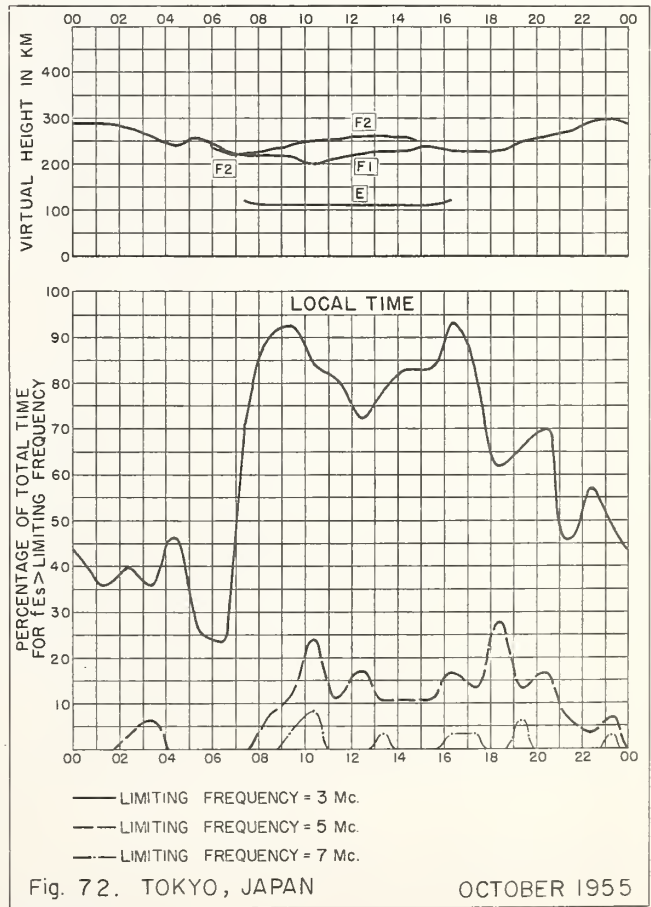


Fig. 72. TOKYO, JAPAN

OCTOBER 1955

NBS 490

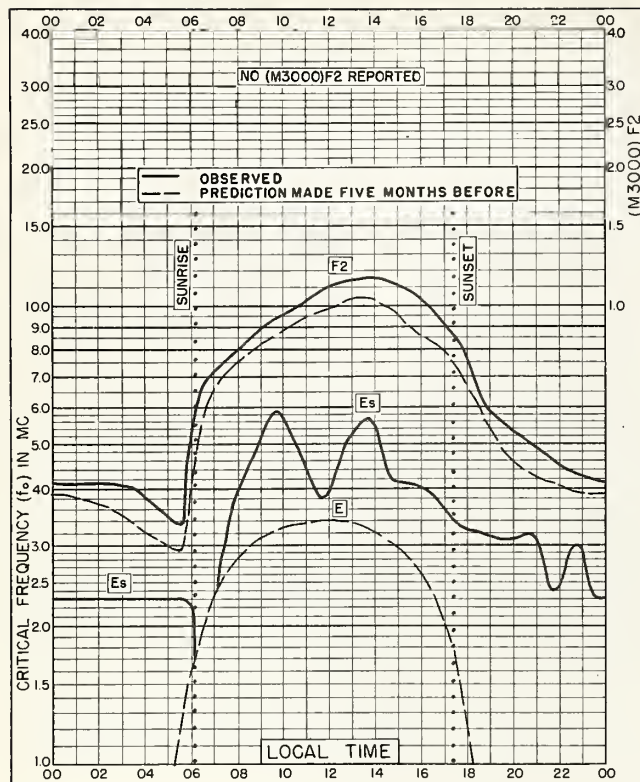


Fig. 73. YAMAGAWA, JAPAN
31.2°N, 130.6°E

OCTOBER 1955

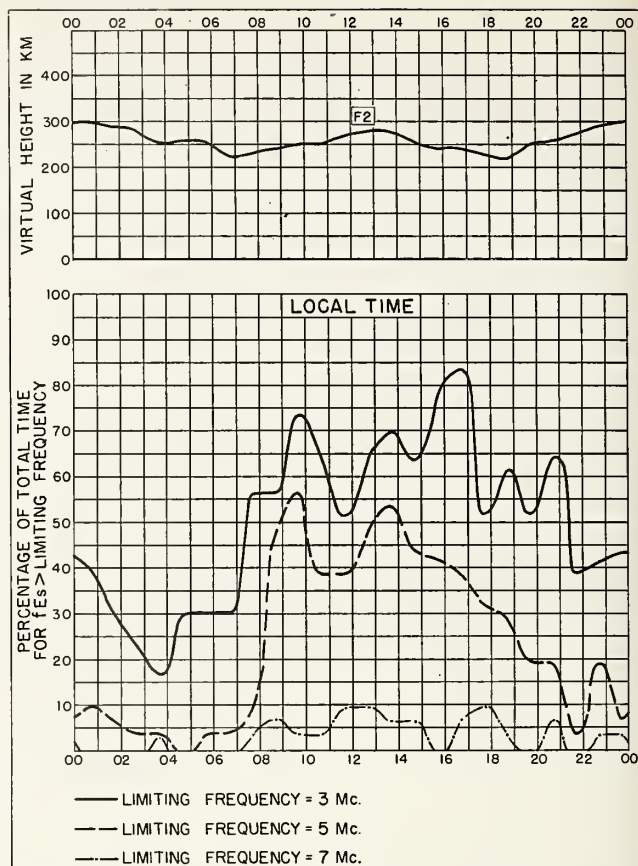


Fig. 74. YAMAGAWA, JAPAN

OCTOBER 1955

NBS 490

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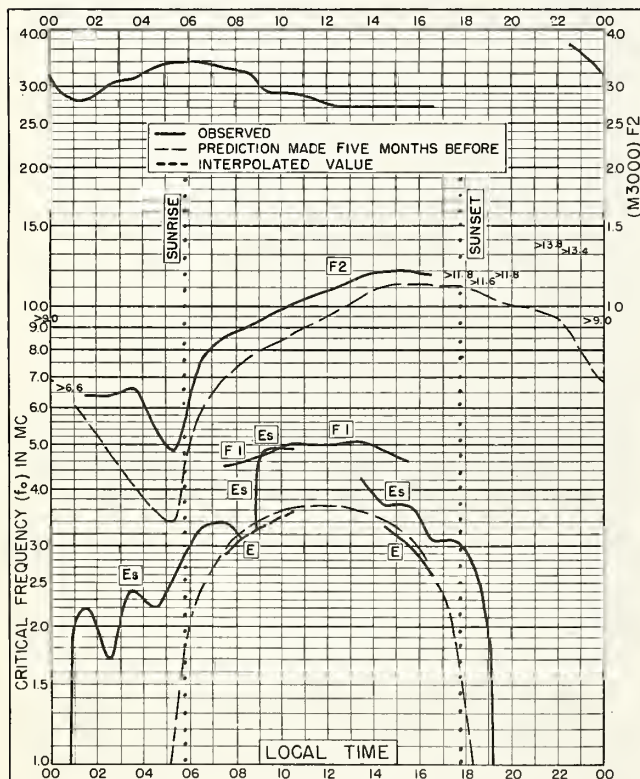


Fig. 75. NAIROBI, KENYA
1.3°S, 36.8°E

OCTOBER 1955

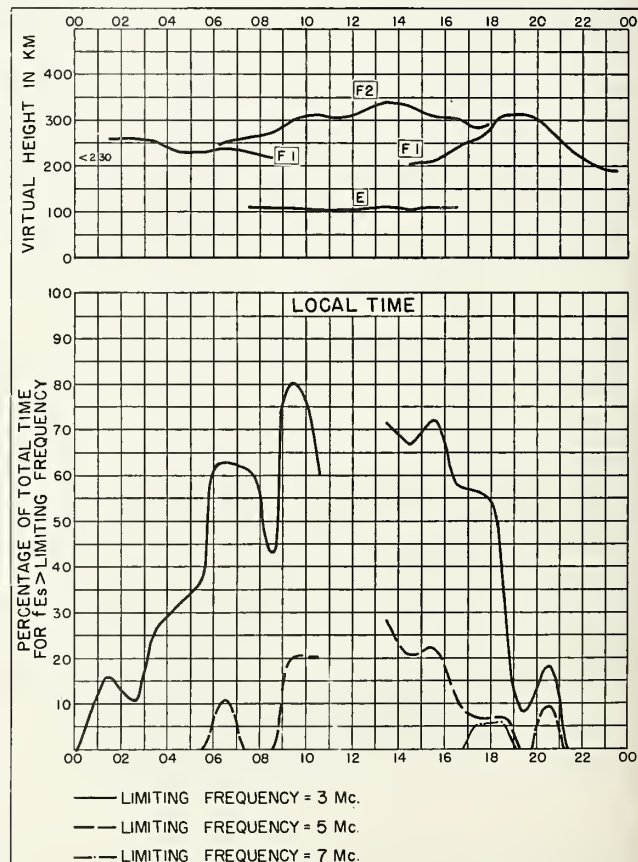


Fig. 76. NAIROBI, KENYA

OCTOBER 1955

NBS 490

U. S. GOVERNMENT PRINTING OFFICE 15877

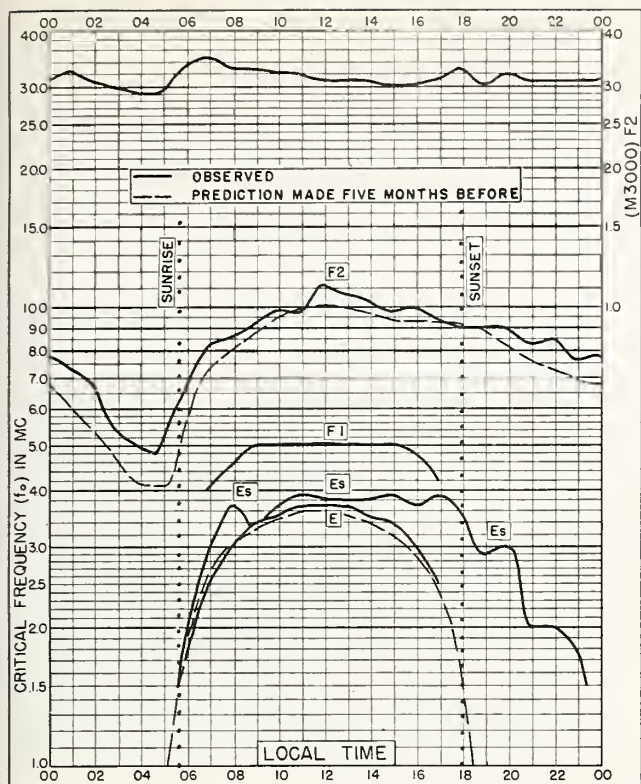


Fig. 77. RAROTONGA I.

21.3°S, 159.8°W

OCTOBER 1955

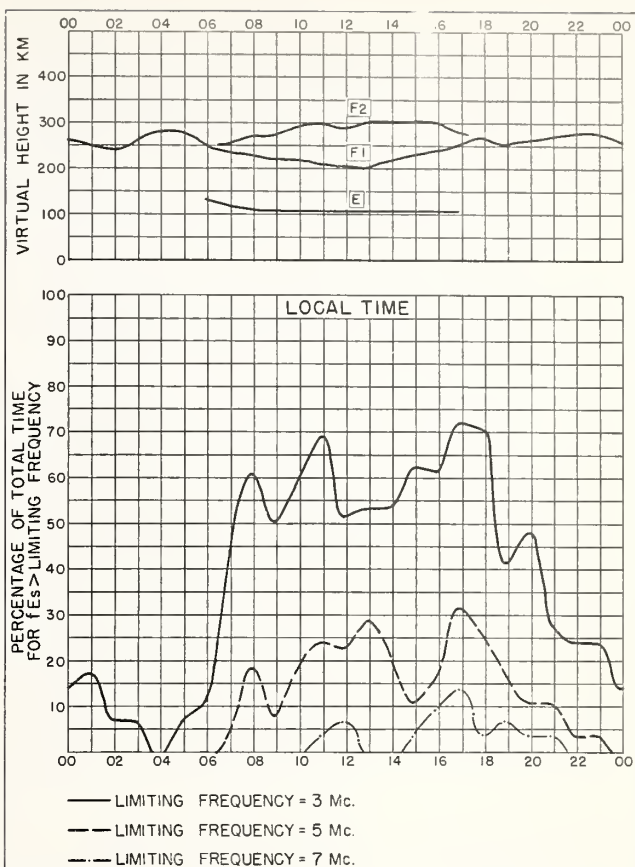


Fig. 78. RAROTONGA I.

OCTOBER 1955

NBS 490

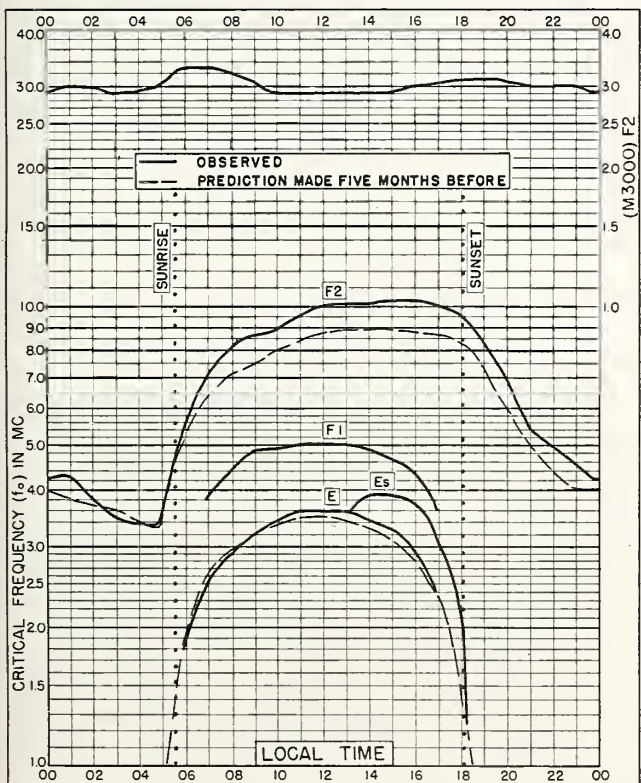


Fig. 79. JOHANNESBURG, UNION OF S. AFRICA

26.2°S, 28.1°E

OCTOBER 1955

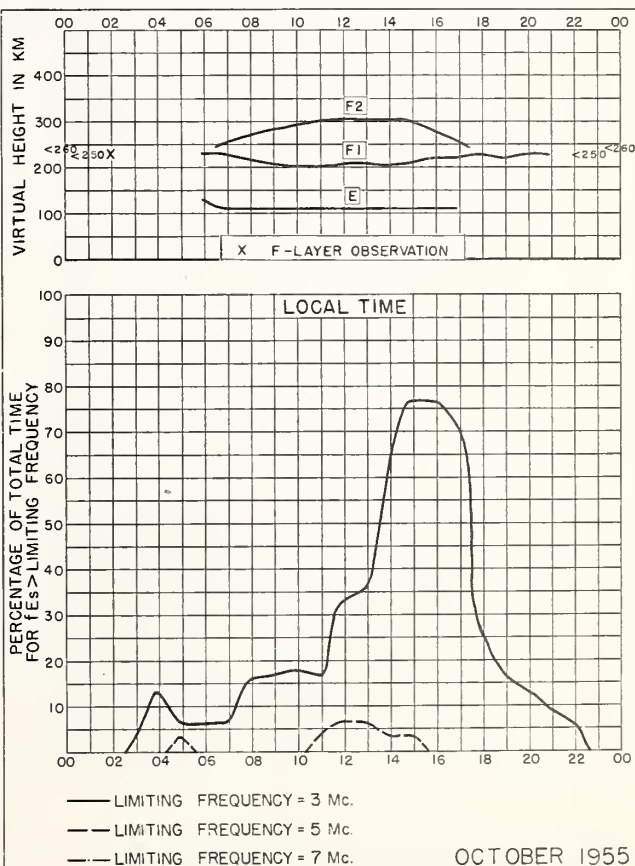


Fig. 80. JOHANNESBURG, UNION OF S. AFRICA

OCTOBER 1955

NBS 490

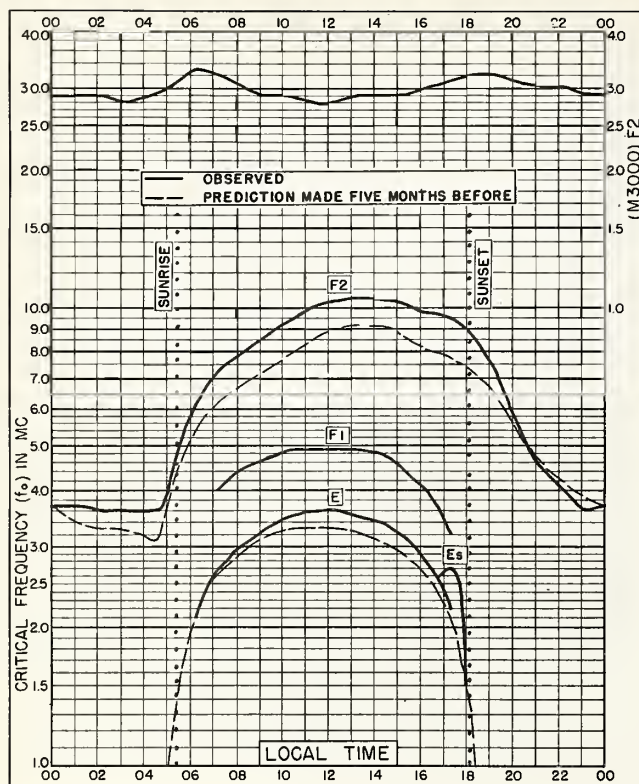


Fig. 81. CAPETOWN, UNION OF S. AFRICA
34.2°S, 18.3°E
OCTOBER 1955

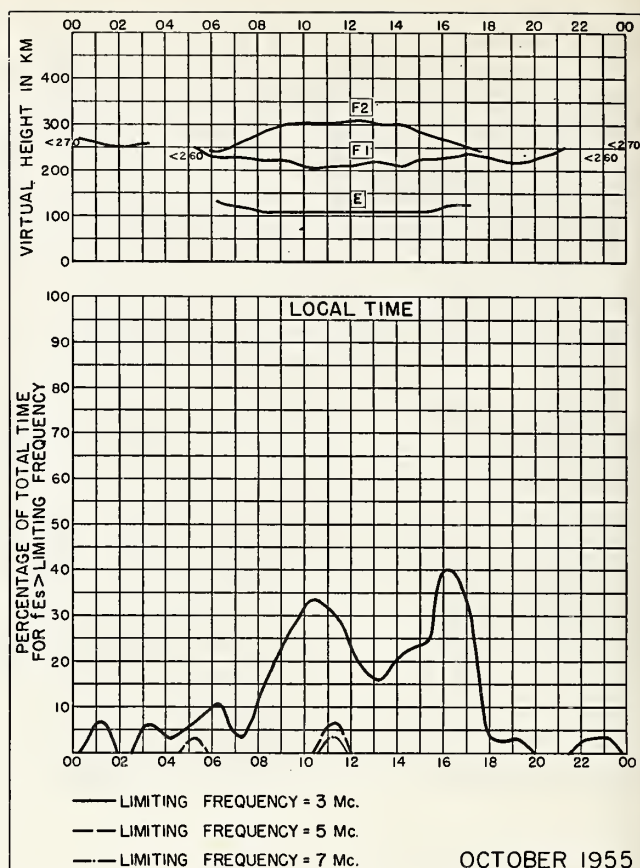


Fig. 82. CAPETOWN, UNION OF S. AFRICA
OCTOBER 1955

NBS 490

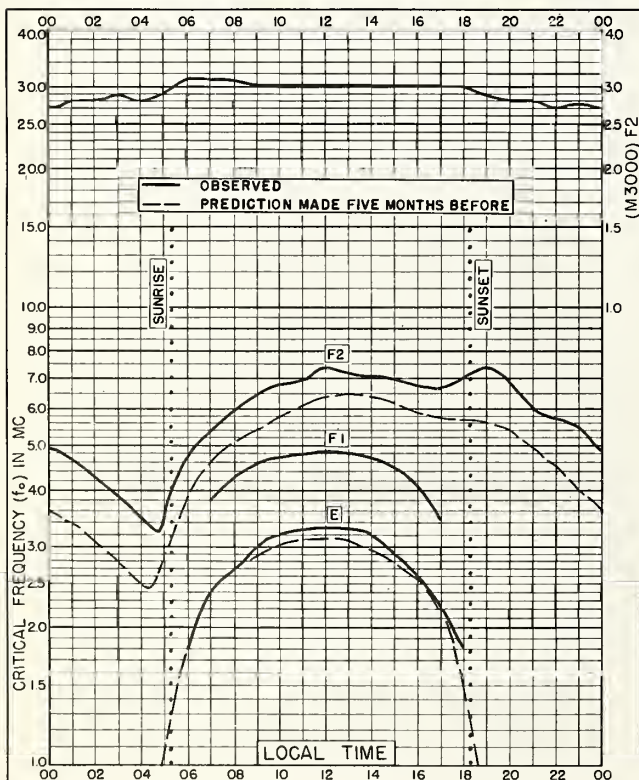


Fig. 83. CHRISTCHURCH, NEW ZEALAND
43.6°S, 172.8°E
OCTOBER 1955

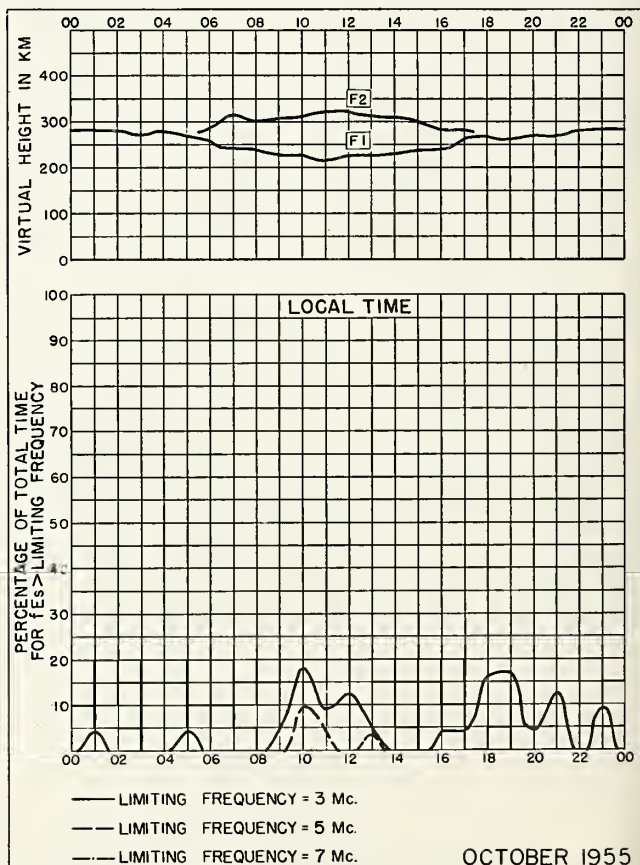


Fig. 84. CHRISTCHURCH, NEW ZEALAND
OCTOBER 1955

NBS 490

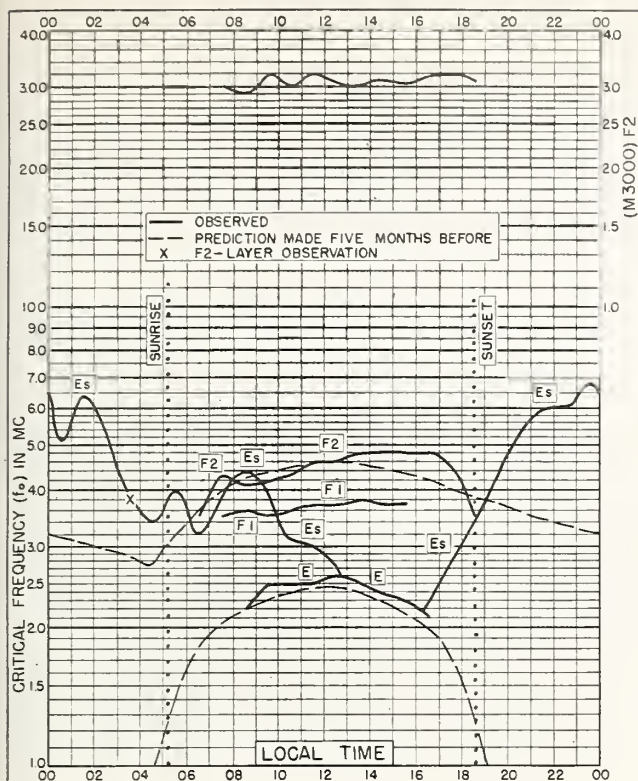


Fig. 85. POINT BARROW, ALASKA
71.3°N, 156.8°W SEPTEMBER 1955

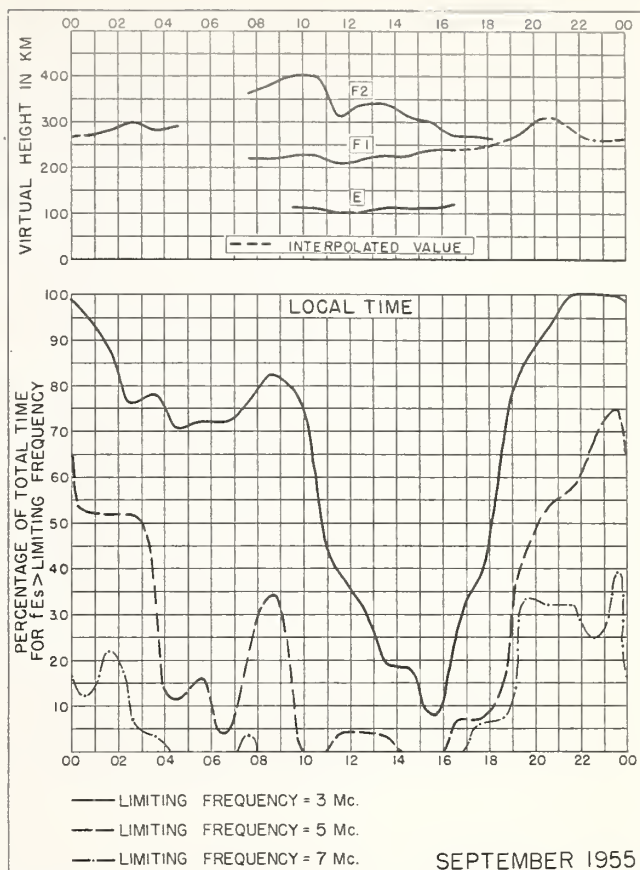


Fig. 86. POINT BARROW, ALASKA
SEPTEMBER 1955

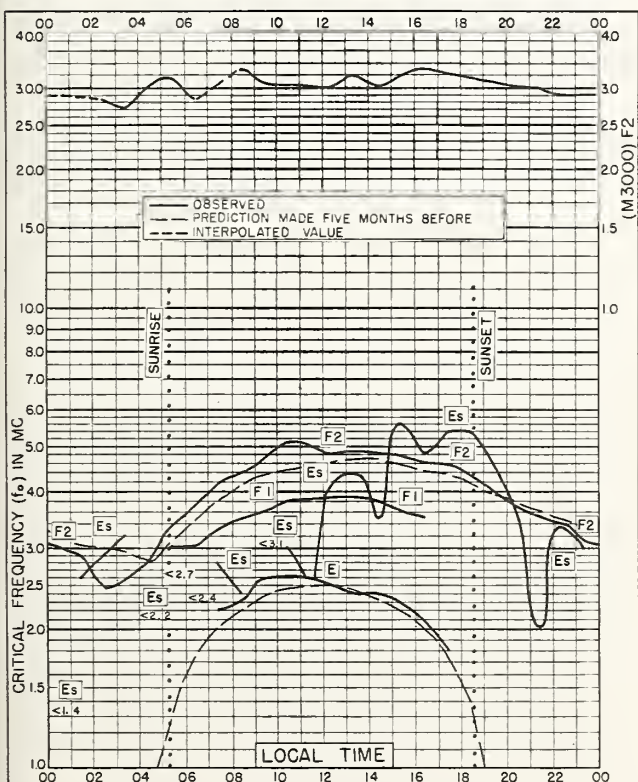


Fig. 87. GODHAVN, GREENLAND
69.2°N, 53.5°W SEPTEMBER 1955

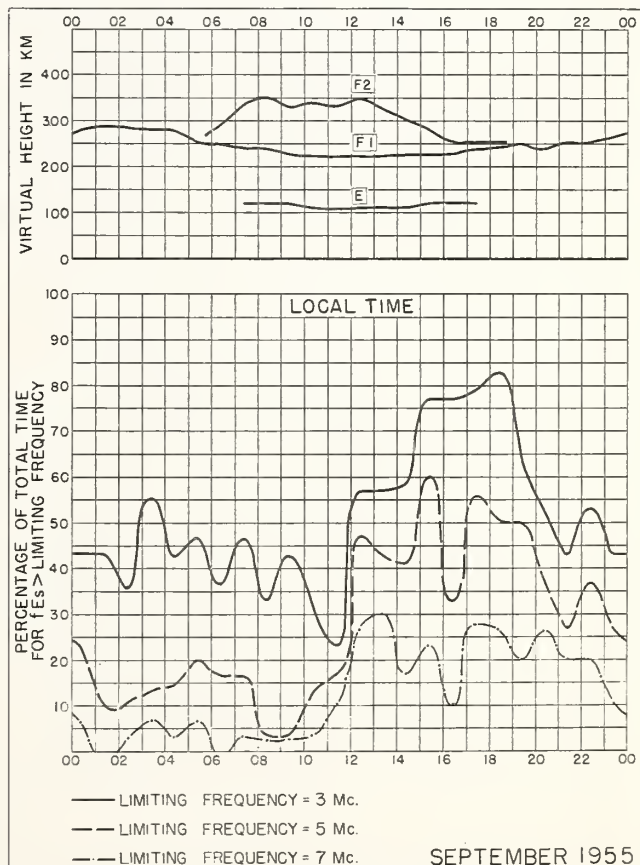


Fig. 88. GODHAVN, GREENLAND
SEPTEMBER 1955

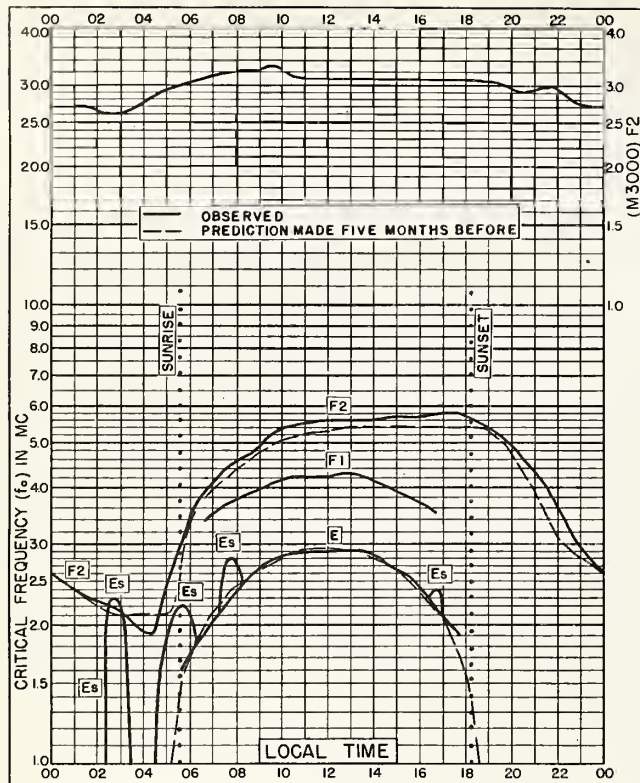


Fig. 89. INVERNESS, SCOTLAND
57.4°N, 4.2°W SEPTEMBER 1955

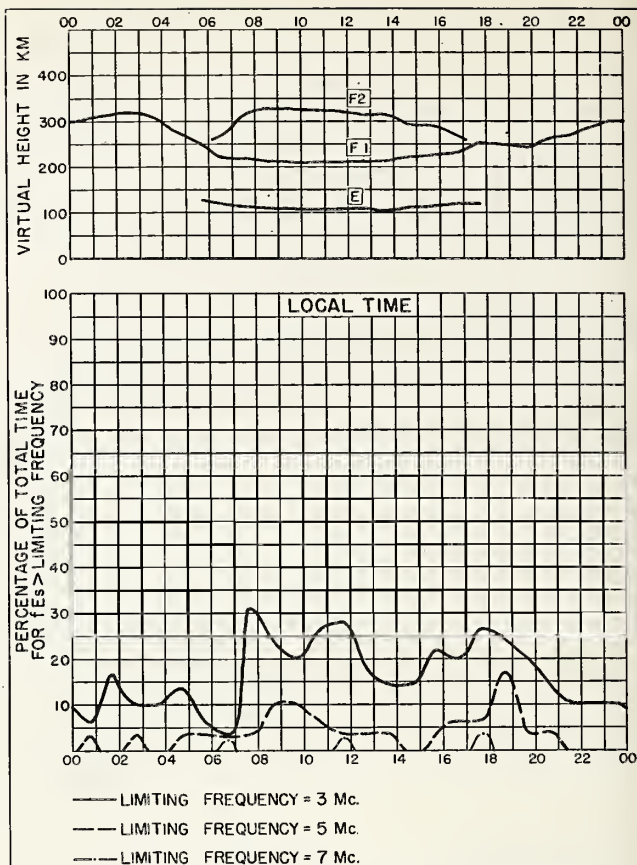


Fig. 90. INVERNESS, SCOTLAND SEPTEMBER 1955

NBS 490

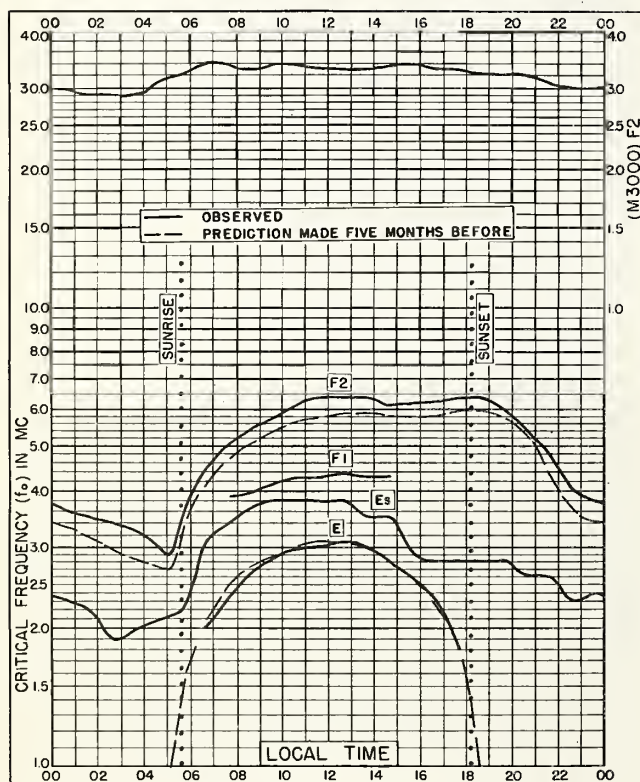


Fig. 91. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E SEPTEMBER 1955

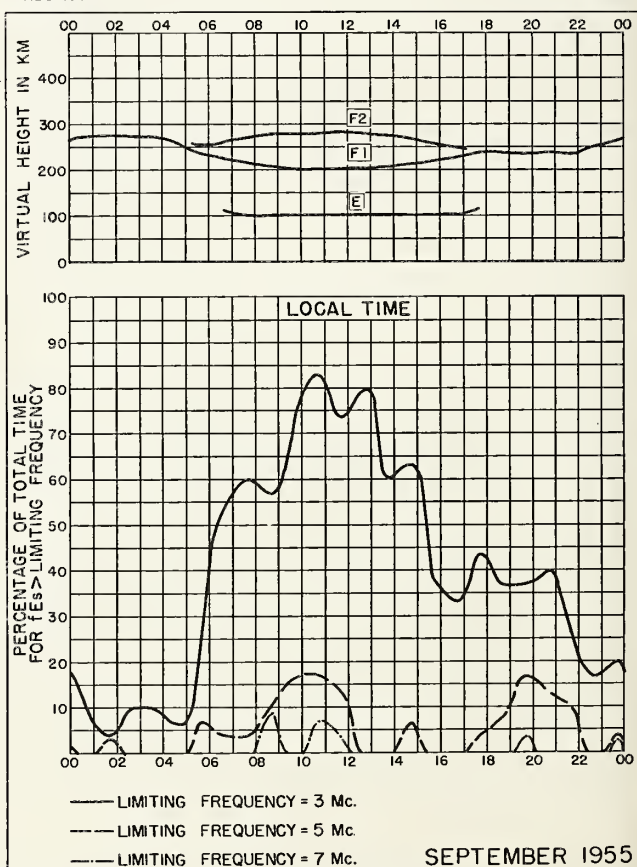


Fig. 92. LINDAU/HARZ, GERMANY

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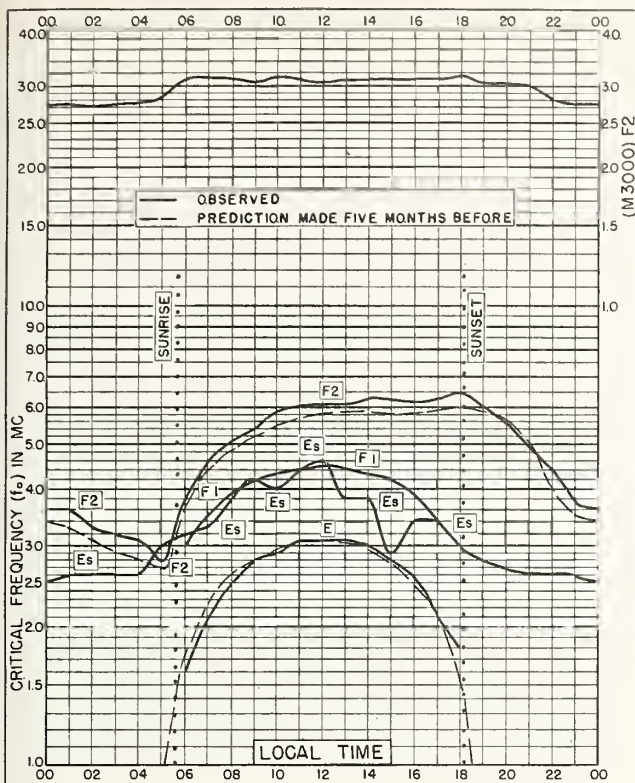


Fig. 93. SLOUGH, ENGLAND
51.5°N, 0.6°W SEPTEMBER 1955

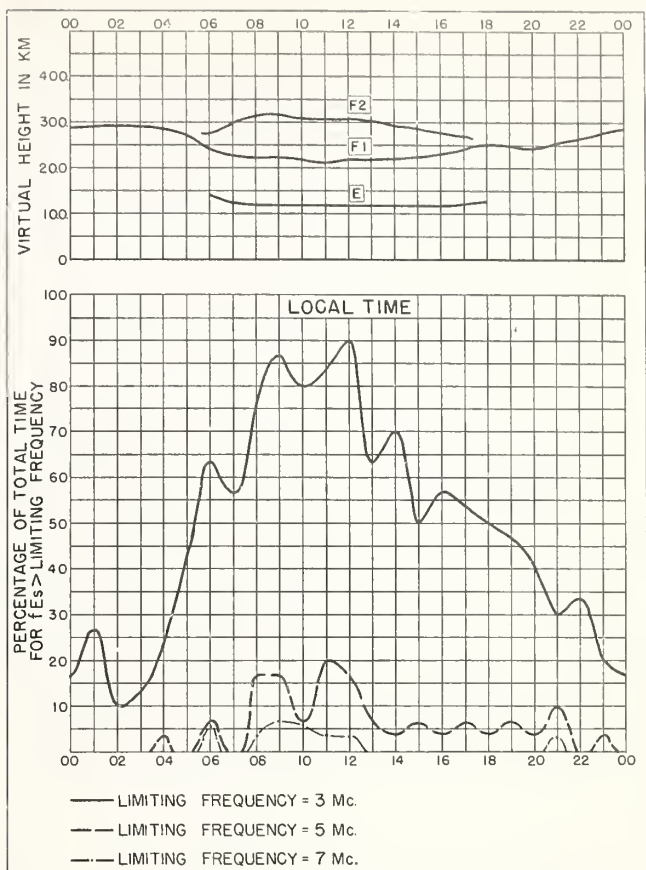


Fig. 94. SLOUGH, ENGLAND SEPTEMBER 1955

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A. R. ROBERTSON, PHYSICS OFFICE, 31/10/55

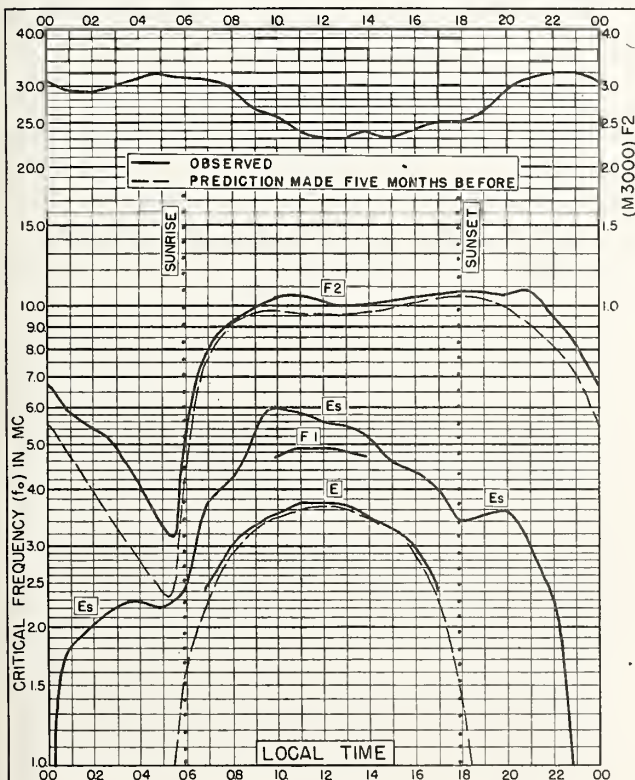


Fig. 95. SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E SEPTEMBER 1955

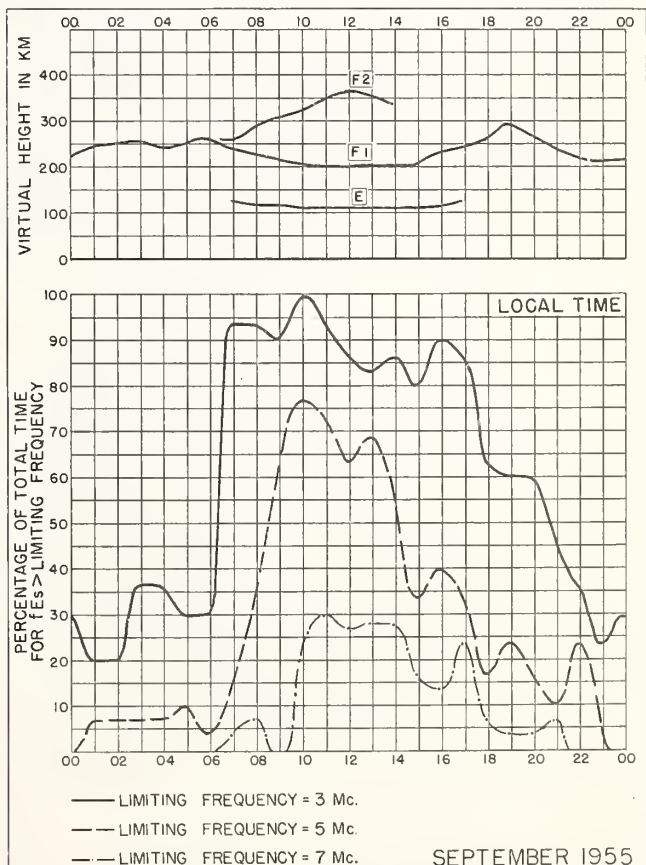


Fig. 96. SINGAPORE, BRITISH MALAYA

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A. R. ROBERTSON, PHYSICS OFFICE, 31/10/55

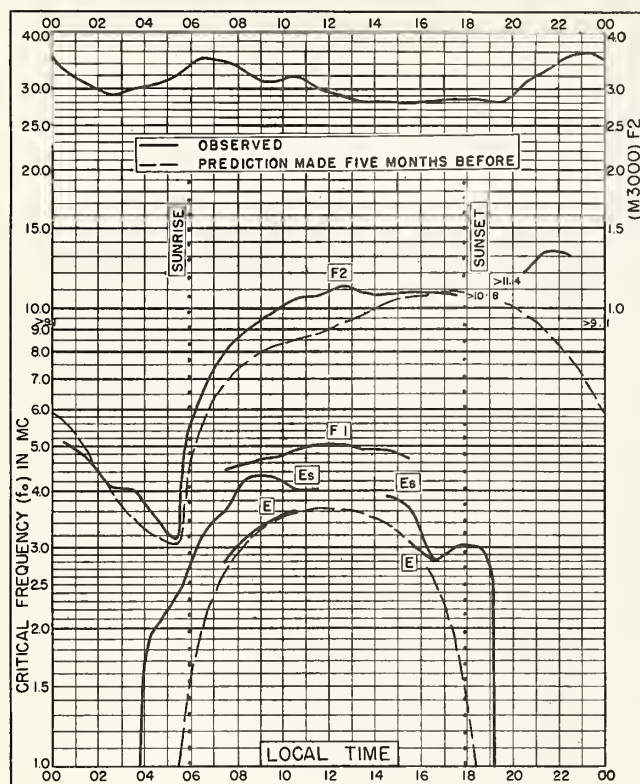


Fig. 97. NAIROBI, KENYA

1.3°S, 36.8°E

SEPTEMBER 1955

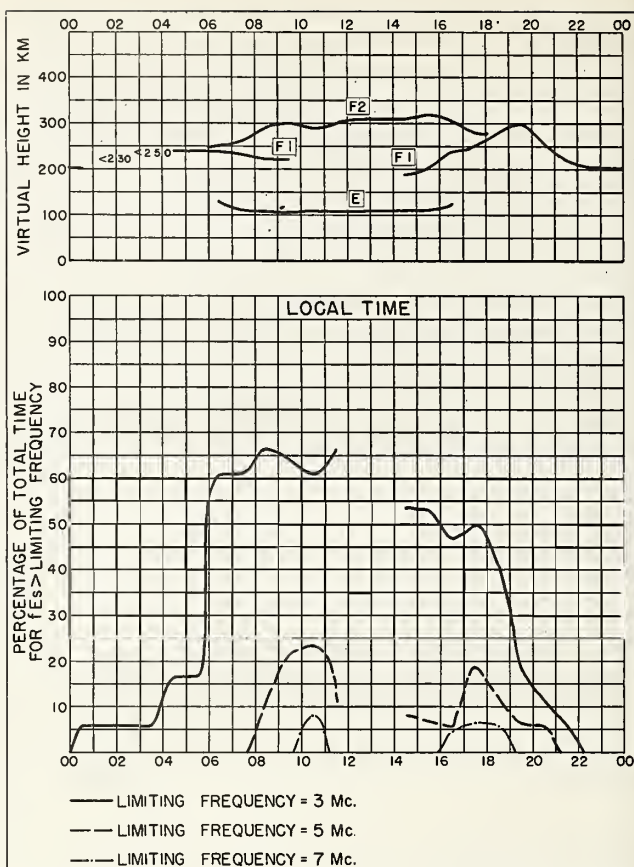


Fig. 98. NAIROBI, KENYA

SEPTEMBER 1955

NBS 490

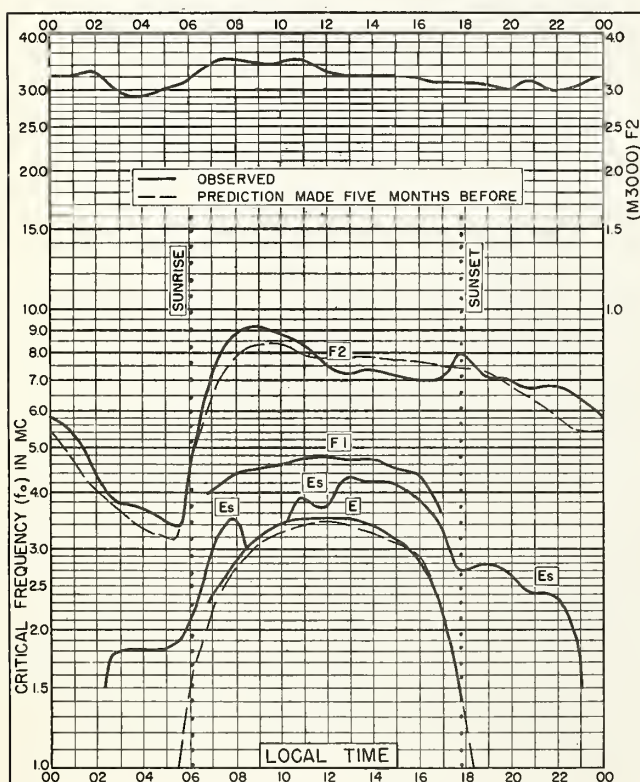


Fig. 99. RAROTONGA I.

21.3°S, 159.8°W

SEPTEMBER 1955

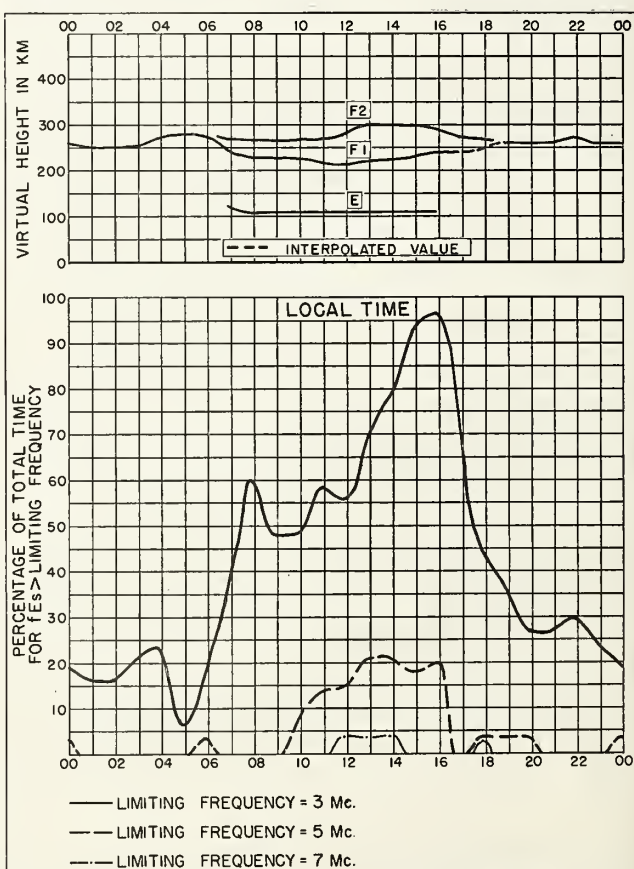


Fig. 100. RAROTONGA I.

SEPTEMBER 1955

NBS 490

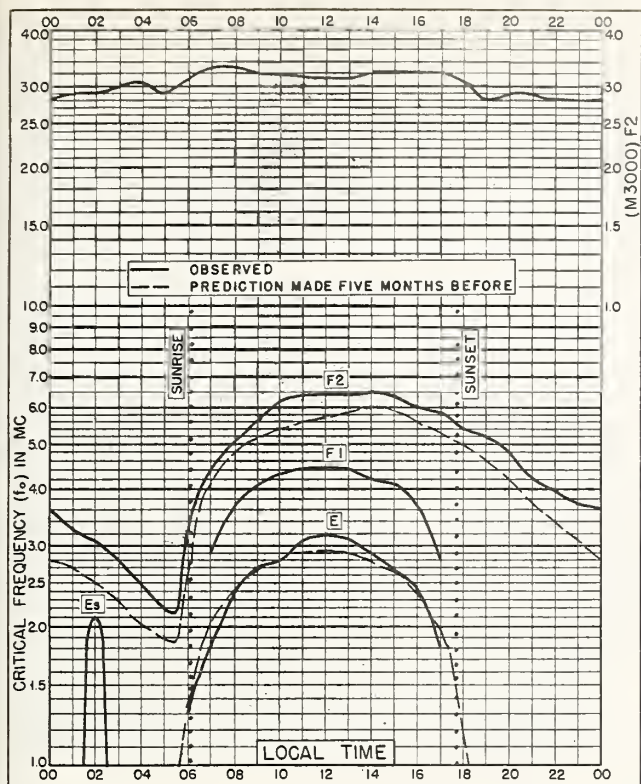


Fig. 101. CHRISTCHURCH, NEW ZEALAND
43.6°S, 172.8°E SEPTEMBER 1955

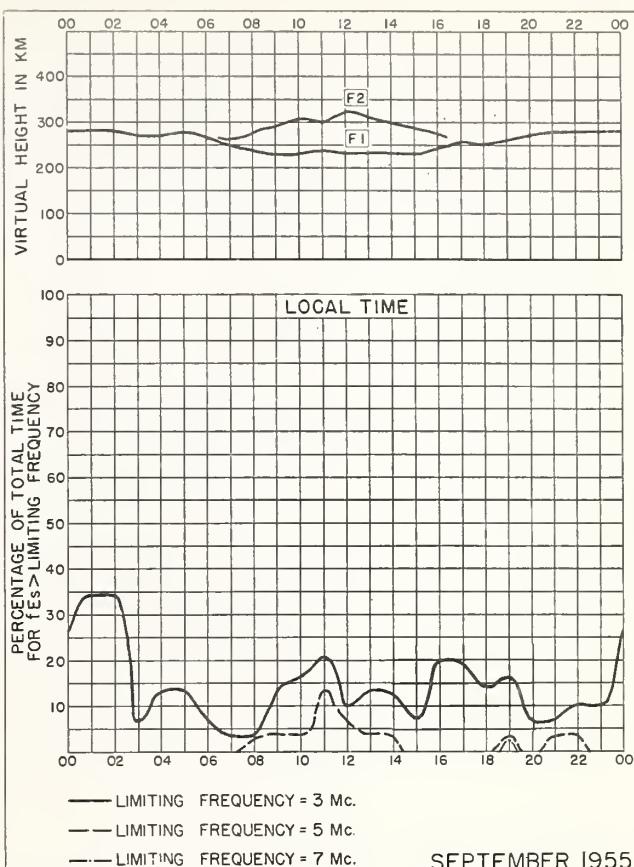


Fig. 102. CHRISTCHURCH, NEW ZEALAND
SEPTEMBER 1955

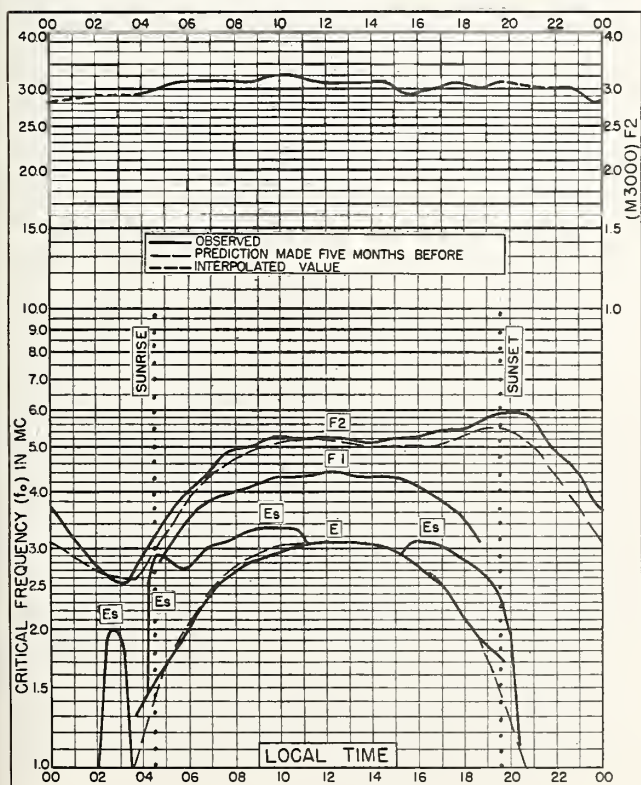


Fig. 103. INVERNESS, SCOTLAND
57.4°N, 4.2°W AUGUST 1955

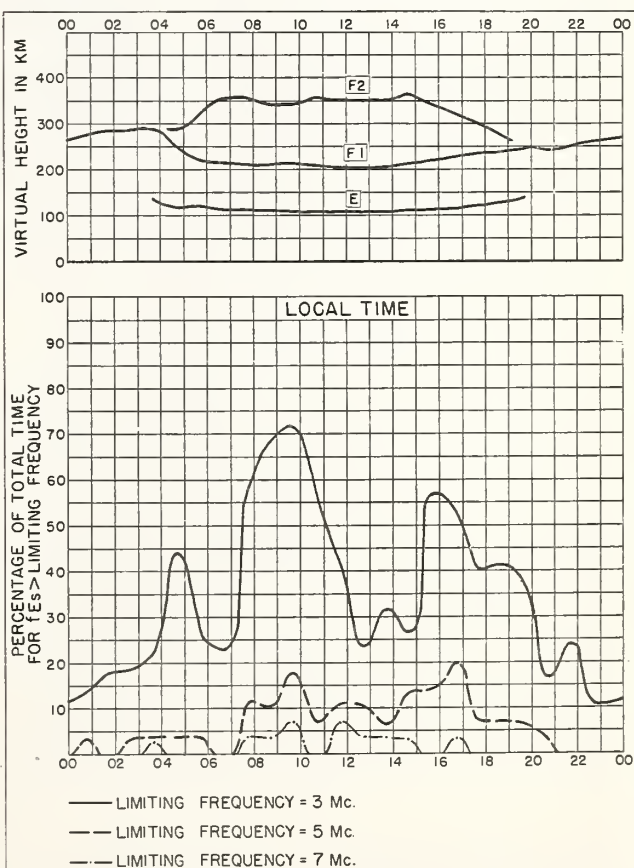
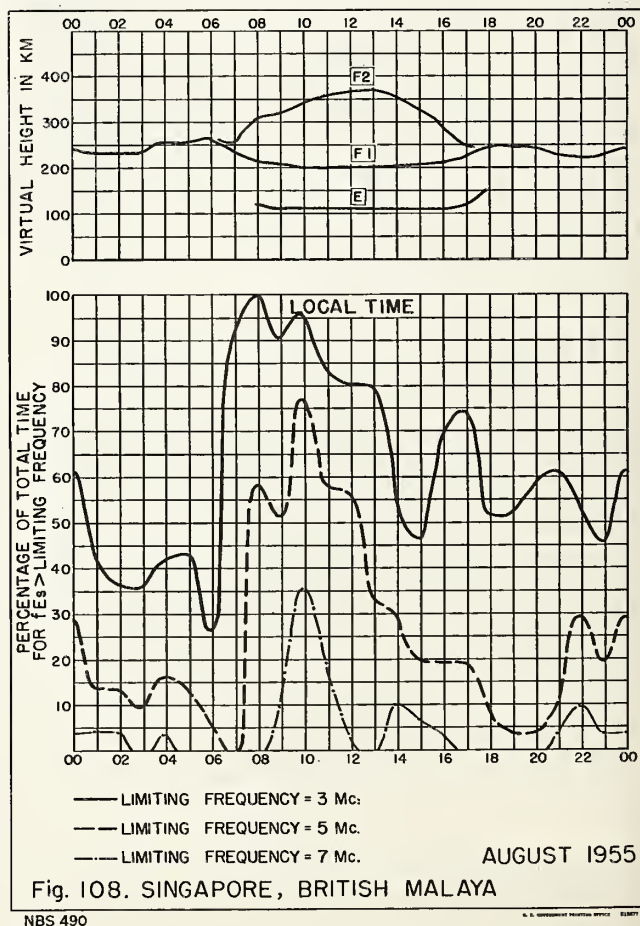
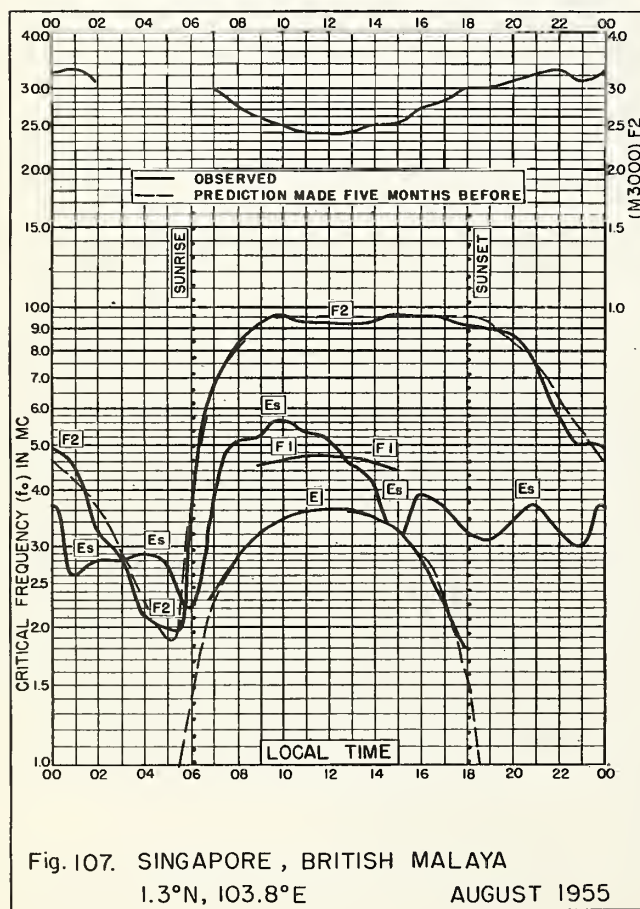
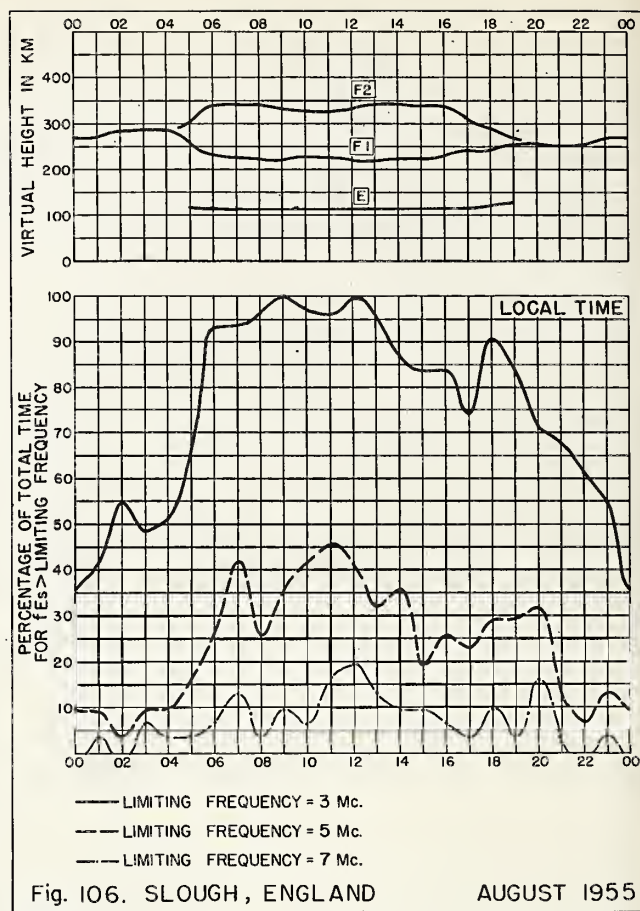
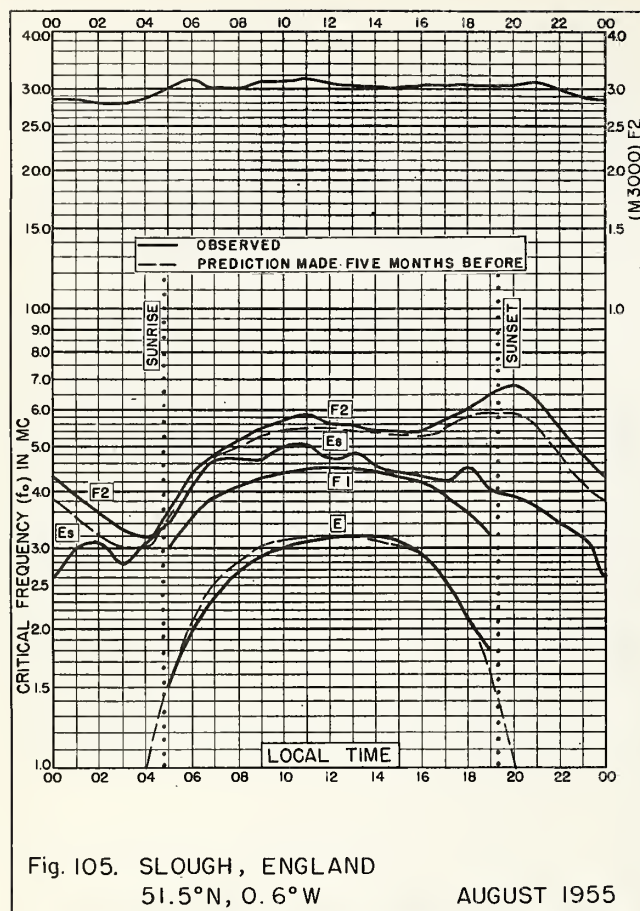


Fig. 104. INVERNESS, SCOTLAND
AUGUST 1955



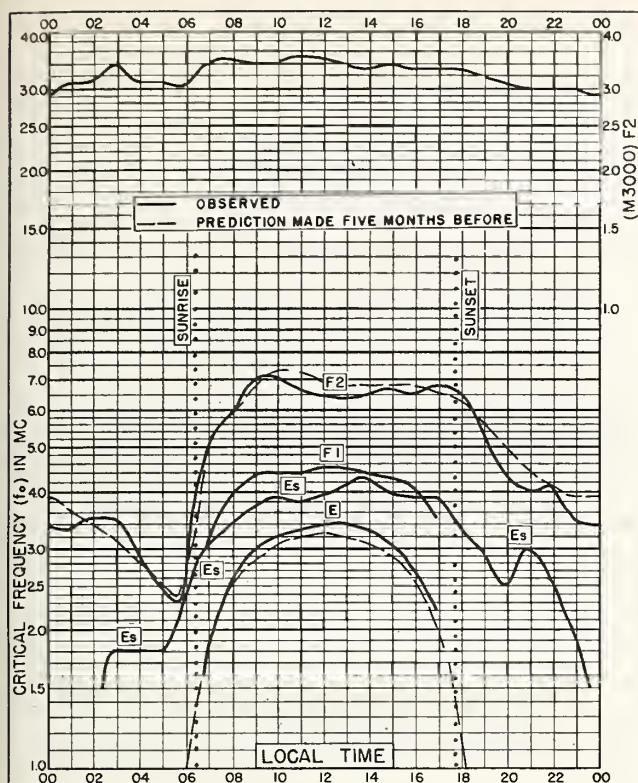


Fig. 109. RAROTONGA I.

21.3°S, 159.8°W

AUGUST 1955

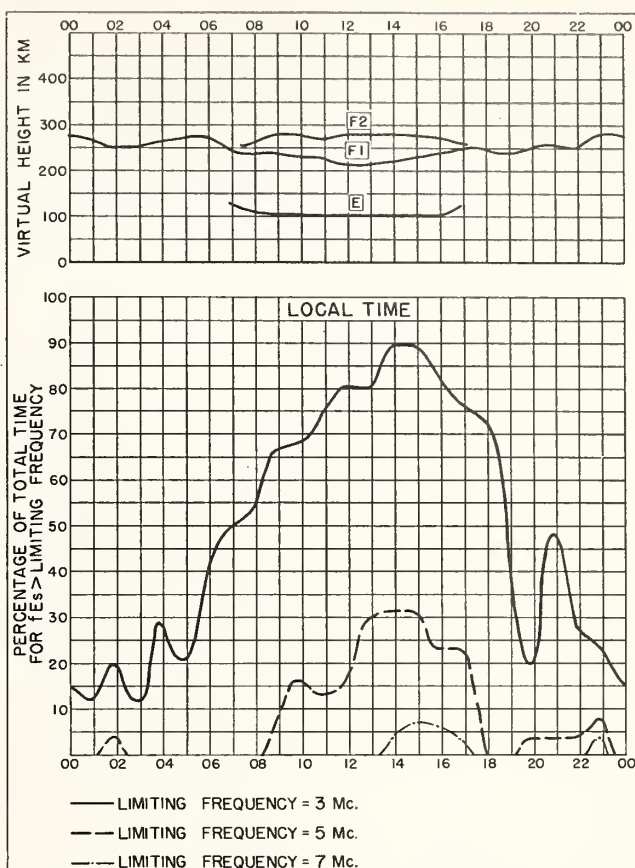


Fig. 110. RAROTONGA I.

AUGUST 1955

NBS 490

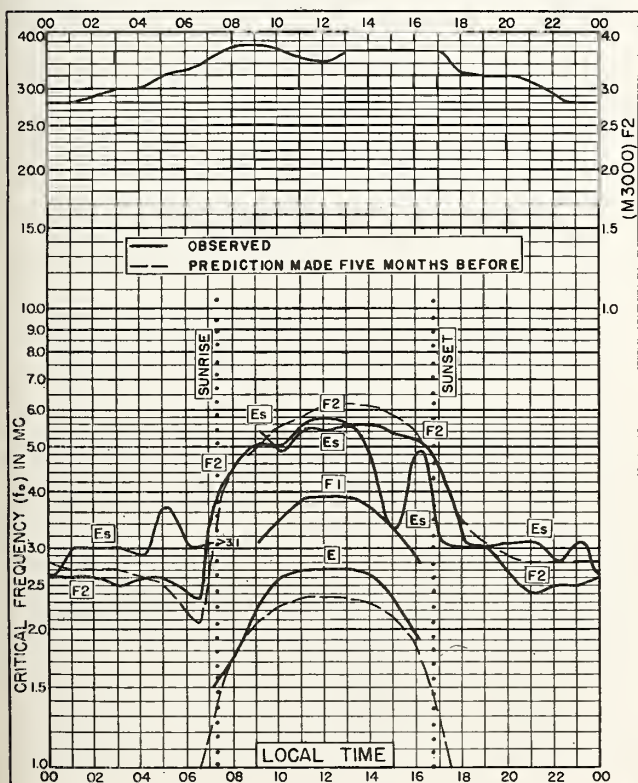


Fig. 111. FALKLAND IS.

51.7°S, 57.8°W

AUGUST 1955

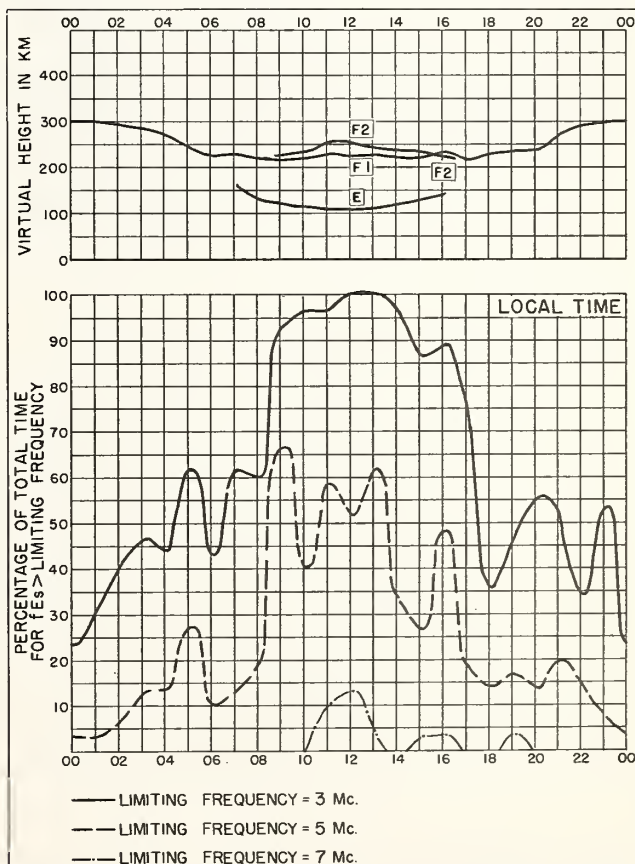


Fig. 112. FALKLAND IS.

AUGUST 1955

NBS 490

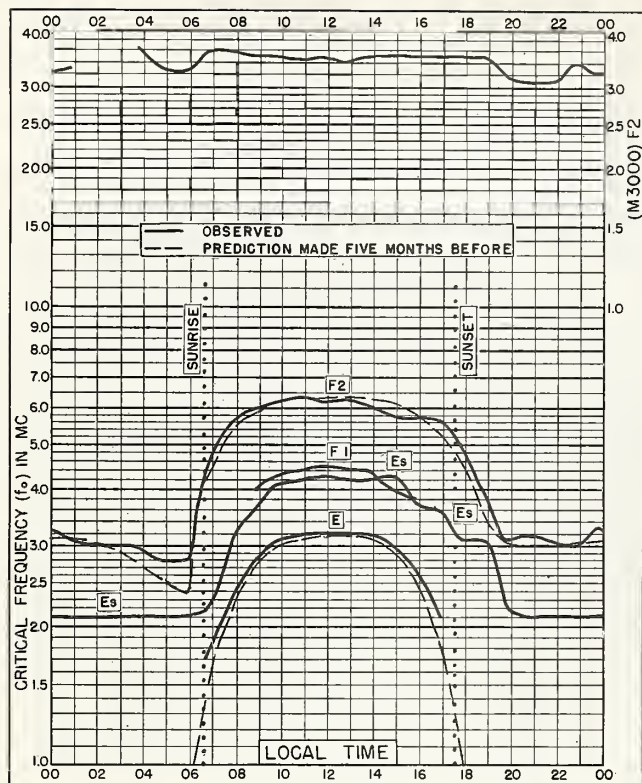


Fig. 113. TOWNVILLE, AUSTRALIA
19.3°S, 146.7°E

JULY 1955

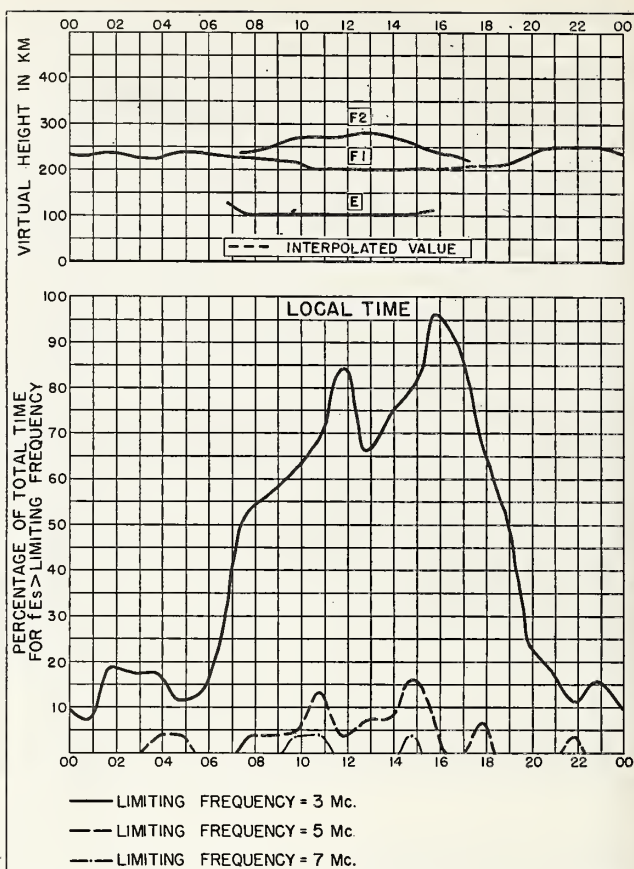


Fig. 114. TOWNVILLE, AUSTRALIA

JULY 1955

NBS 490

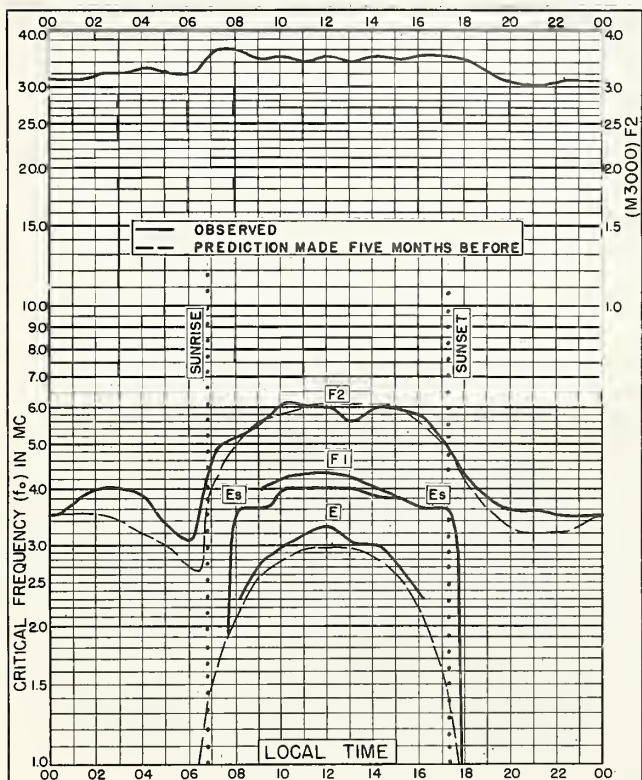


Fig. 115. BRISBANE, AUSTRALIA
27.5°S, 153.0°E

JULY 1955

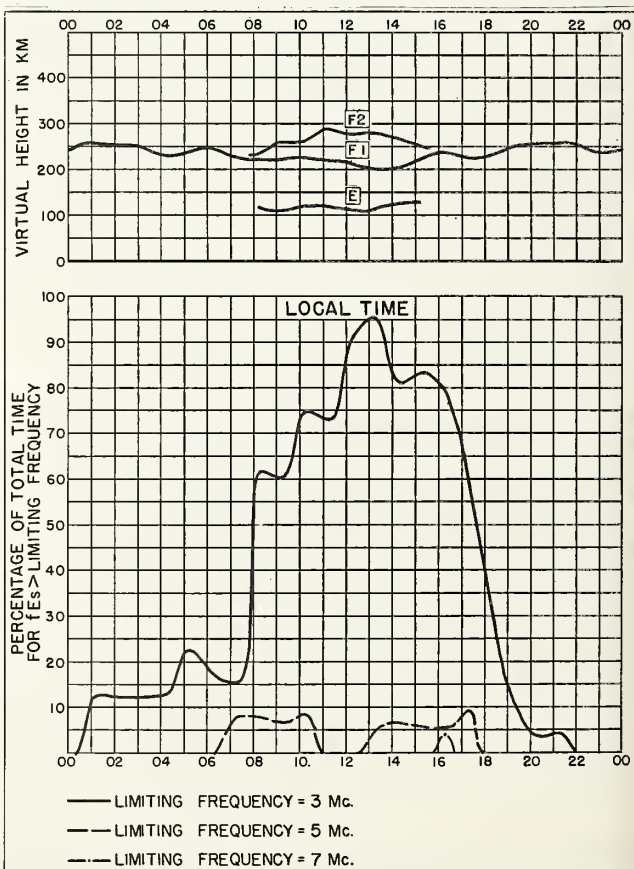


Fig. 116. BRISBANE, AUSTRALIA

JULY 1955

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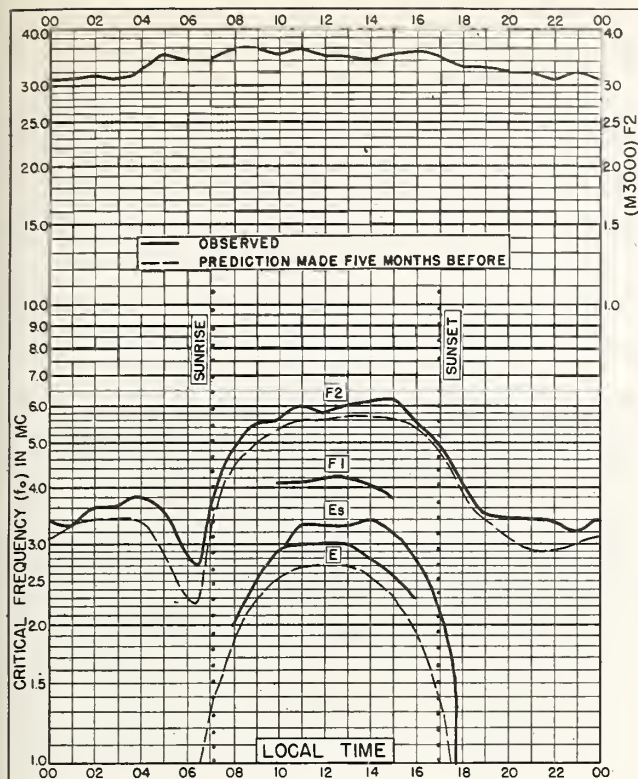
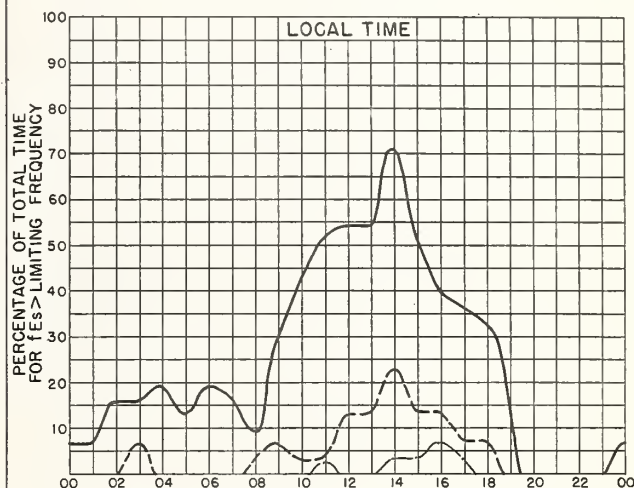
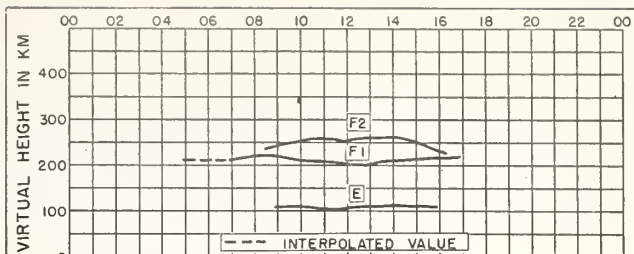


Fig. 117. CANBERRA, AUSTRALIA
35.3°S, 149.0°E

JULY 1955



— LIMITING FREQUENCY = 3 Mc.
- - - LIMITING FREQUENCY = 5 Mc.
- · - · - LIMITING FREQUENCY = 7 Mc.

Fig. 118. CANBERRA, AUSTRALIA

JULY 1955

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N. & S. HANDBOOK OF THE IONOSPHERE

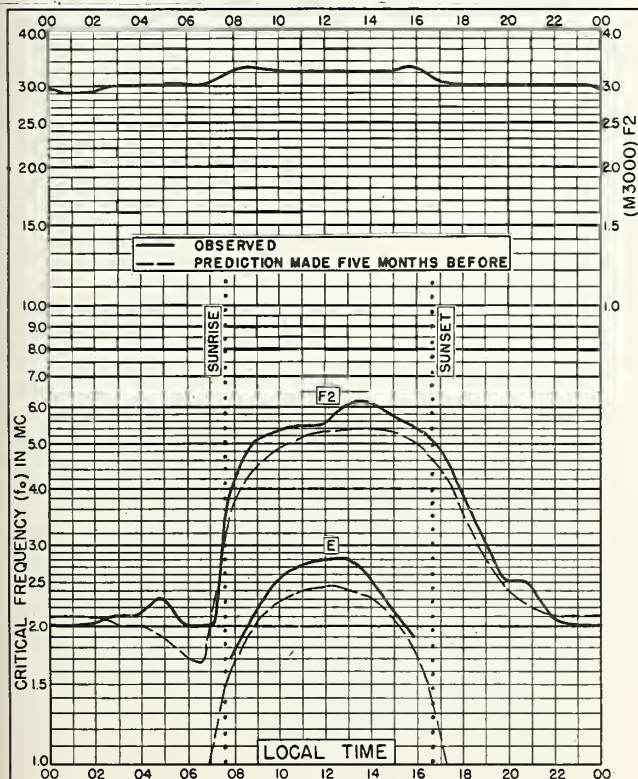
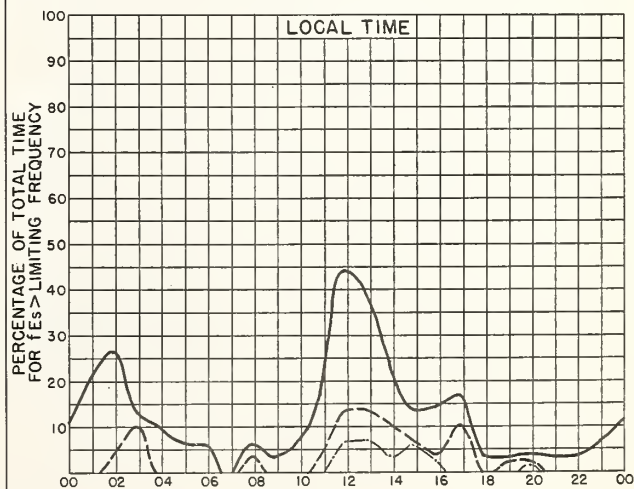
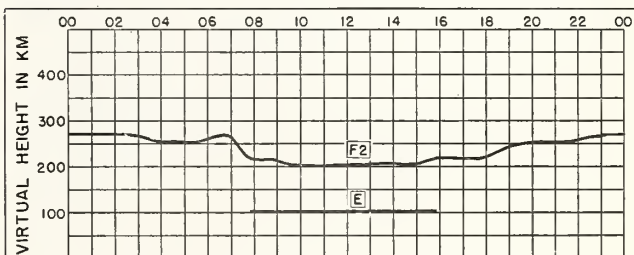


Fig. 119. HOBART, TASMANIA
42.9°S, 147.3°E

JULY 1955



— LIMITING FREQUENCY = 3 Mc.
- - - LIMITING FREQUENCY = 5 Mc.
- · - · - LIMITING FREQUENCY = 7 Mc.

Fig. 120. HOBART, TASMANIA

JULY 1955

NBS 490

N. & S. HANDBOOK OF THE IONOSPHERE

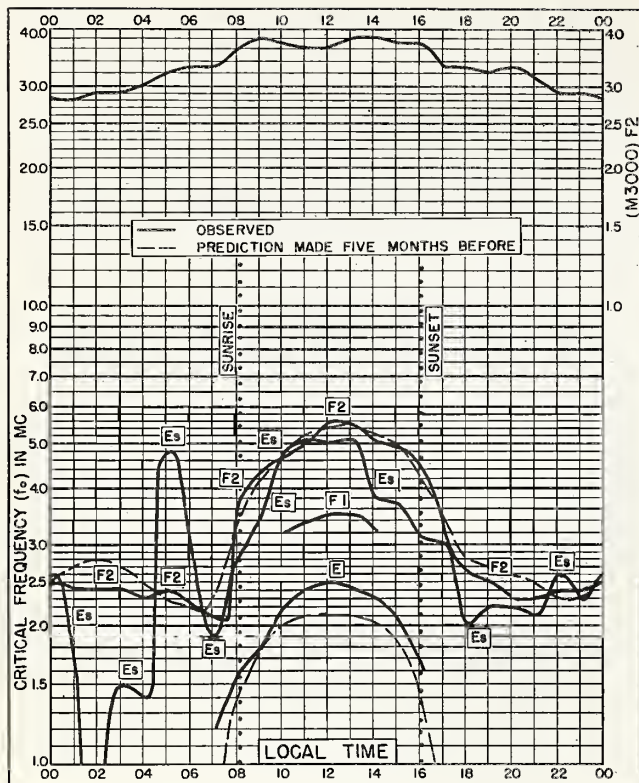


Fig. 121. FALKLAND IS.
51.7°S, 57.8°W

JULY 1955

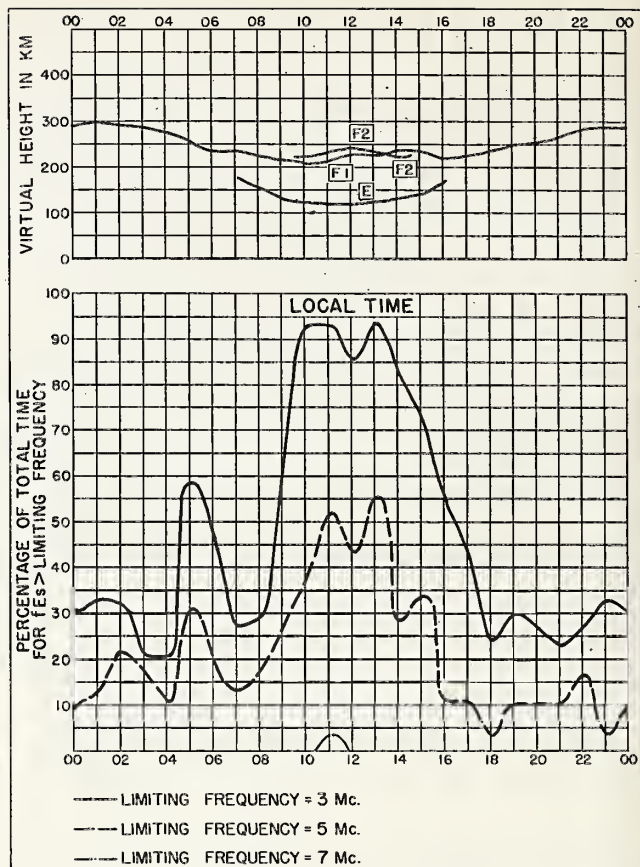


Fig. 122. FALKLAND IS.

JULY 1955

NBS 490

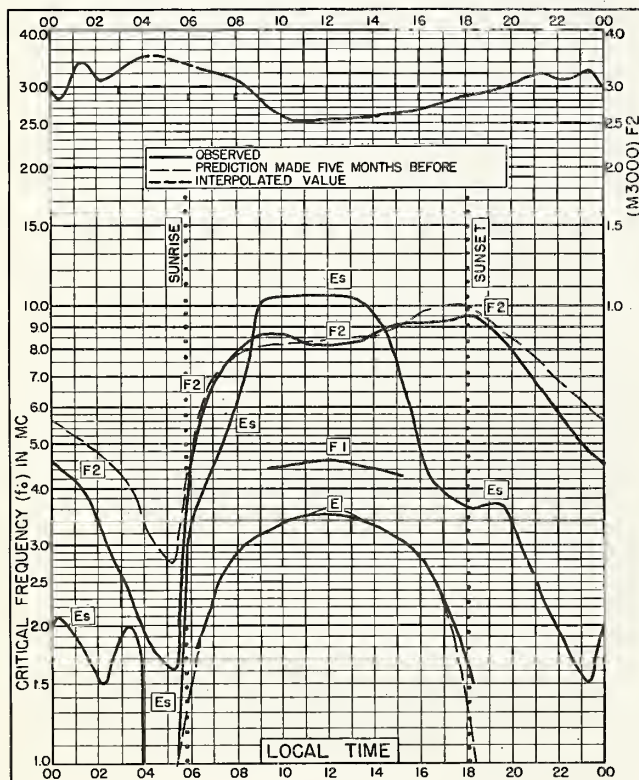


Fig. 123. IBADAN, NIGERIA
7.4°N, 4.0°E

MAY 1955

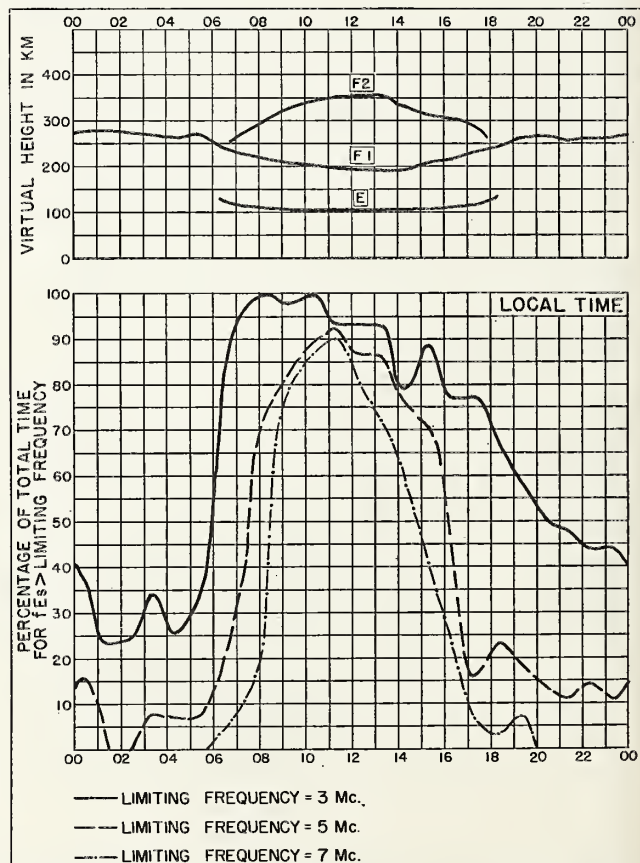


Fig. 124. IBADAN, NIGERIA

MAY 1955

NBS 490

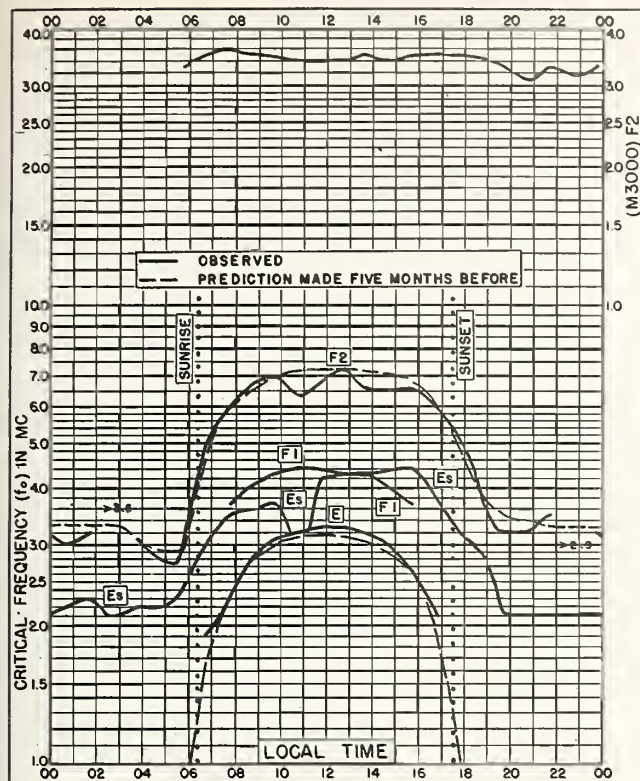


Fig. 125. TOWNSVILLE, AUSTRALIA
19.3°S, 146.7°E

MAY 1955

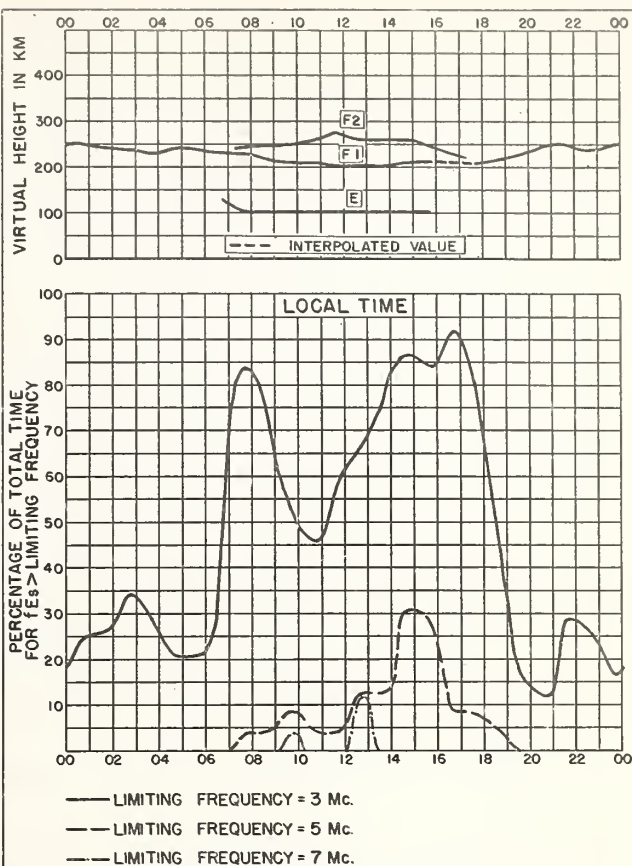


Fig. 126. TOWNSVILLE, AUSTRALIA

MAY 1955

NBS 490

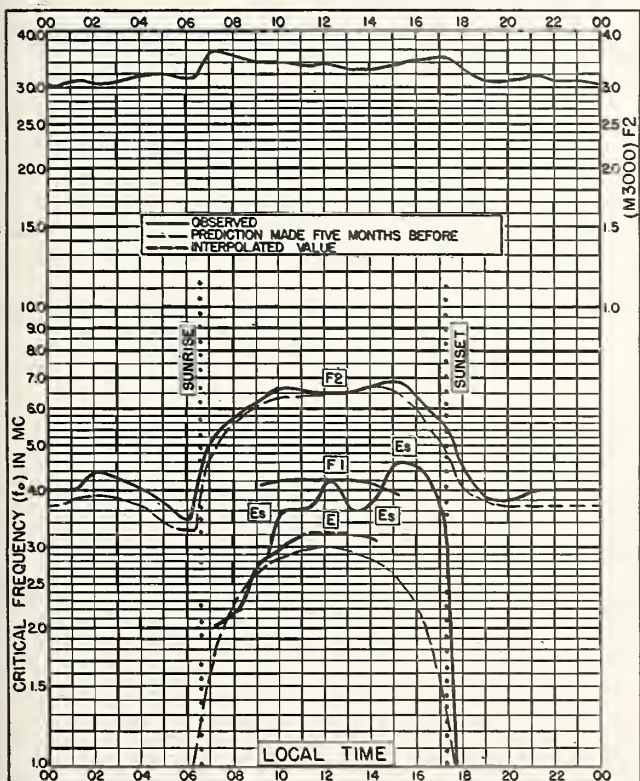


Fig. 127. BRISBANE, AUSTRALIA
27.5°S, 153.0°E

MAY 1955

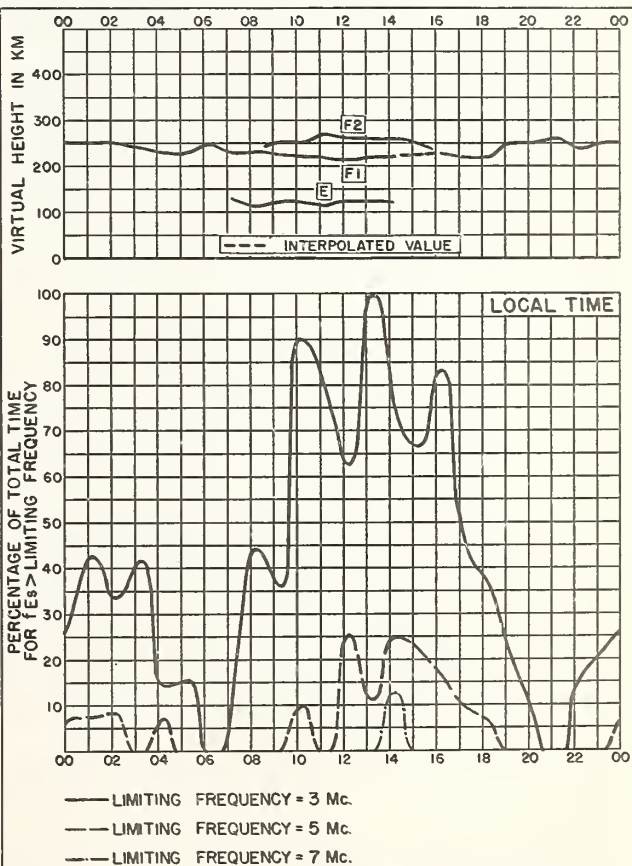


Fig. 128. BRISBANE, AUSTRALIA

MAY 1955

NBS 490

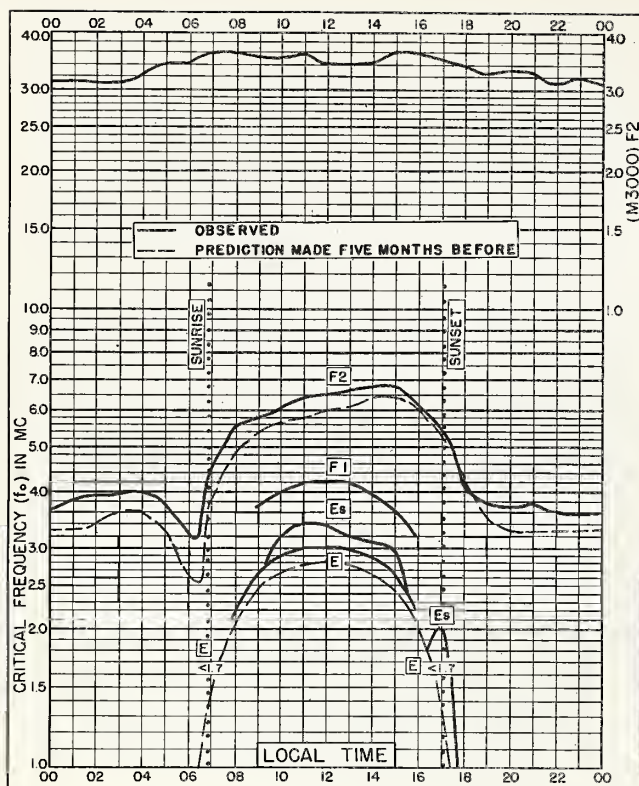


Fig. 129. CANBERRA, AUSTRALIA
35.3°S, 149.0°E

MAY 1955

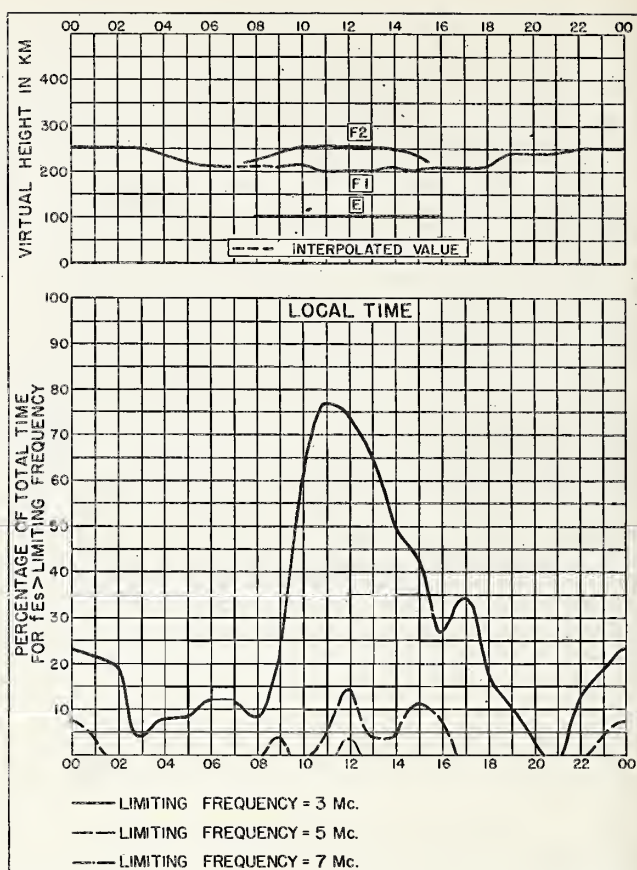


Fig. 130. CANBERRA, AUSTRALIA

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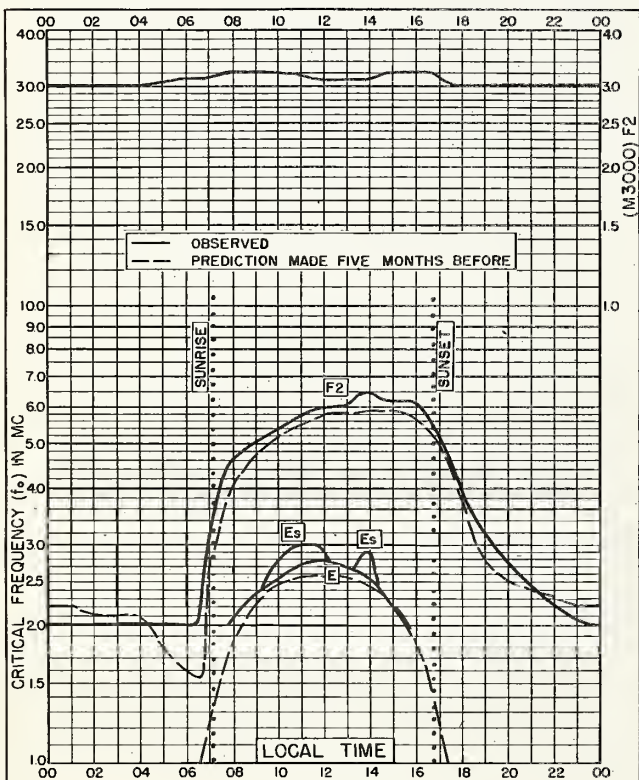


Fig. 131. HOBART, TASMANIA
42.9°S, 147.3°E

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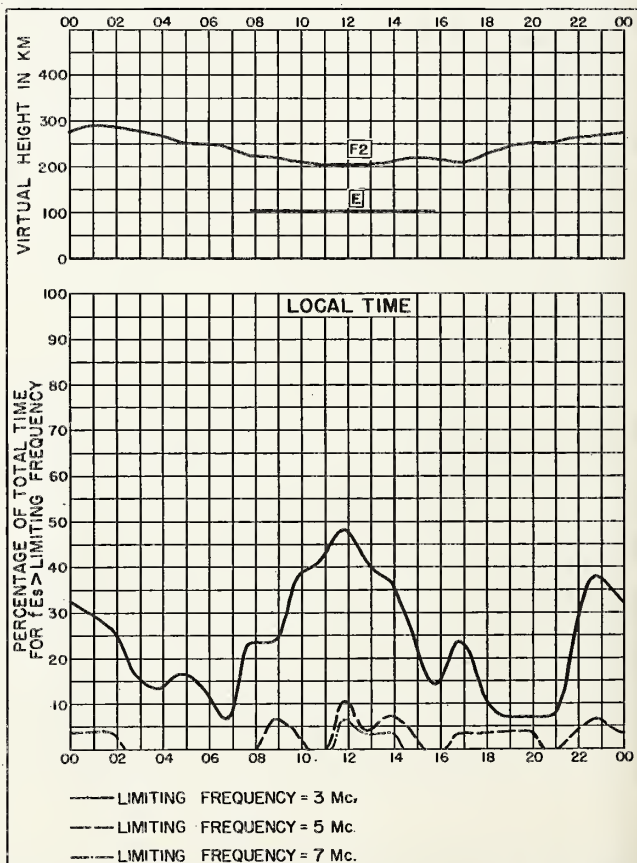


Fig. 132. HOBART, TASMANIA

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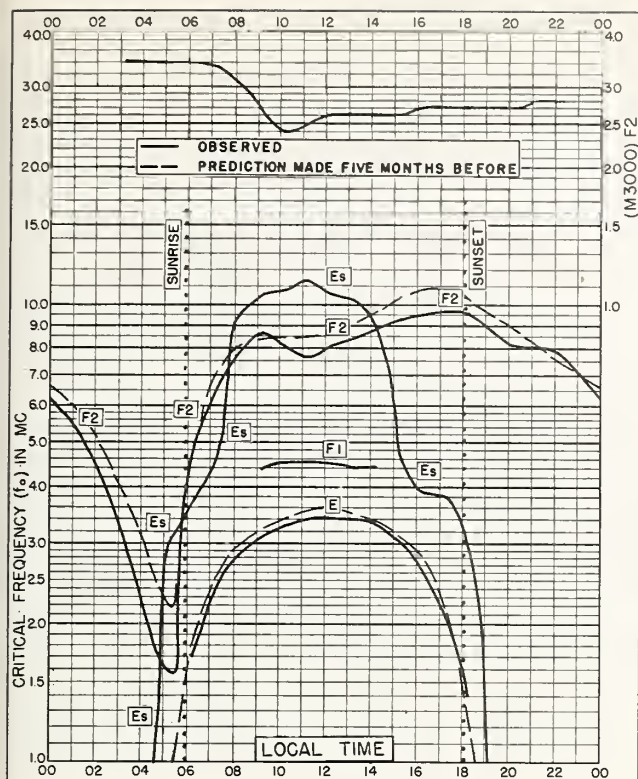


Fig. 133. IBADAN, NIGERIA
7. 4°N, 4. 0°E

APRIL 1955

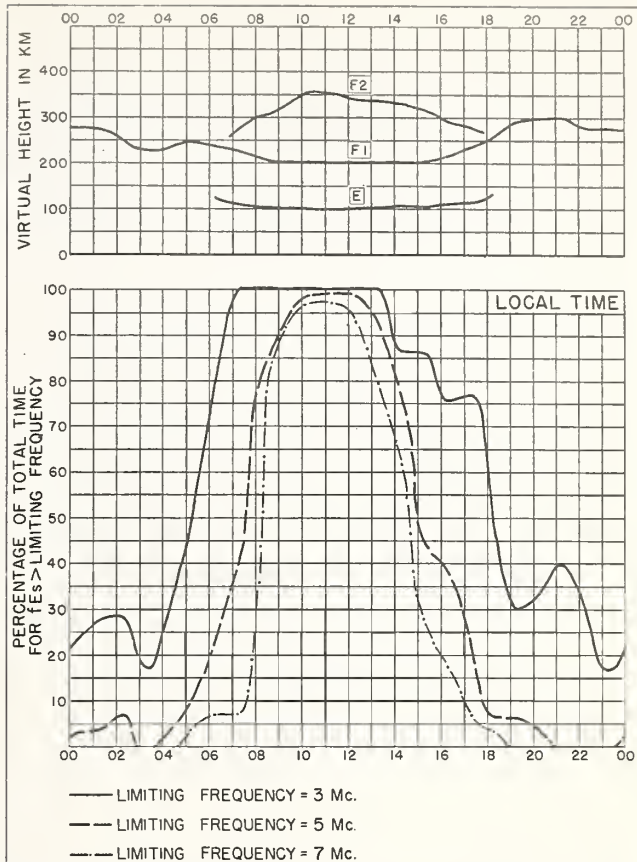


Fig. 134. IBADAN, NIGERIA

APRIL 1955

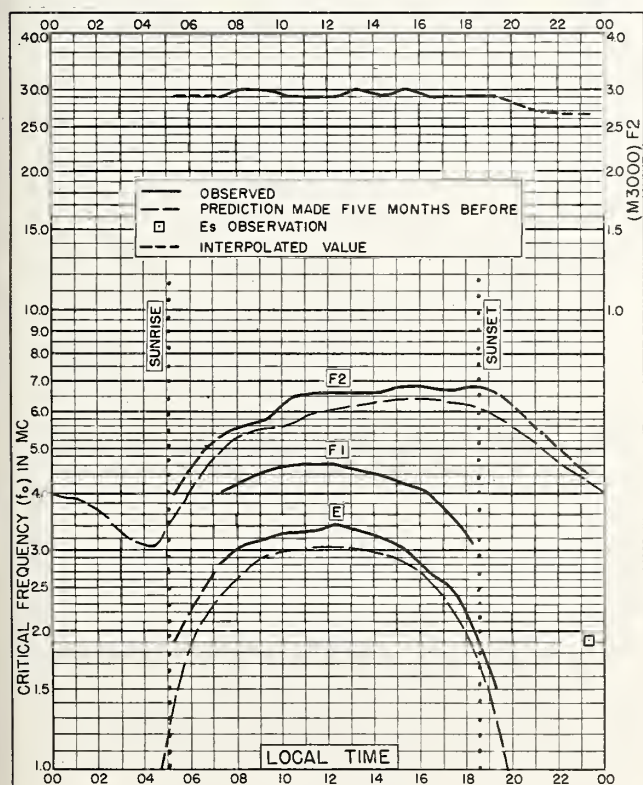


Fig. 135. CAMPBELL I.
52. 5°S, 169. 2°E

OCTOBER 1951

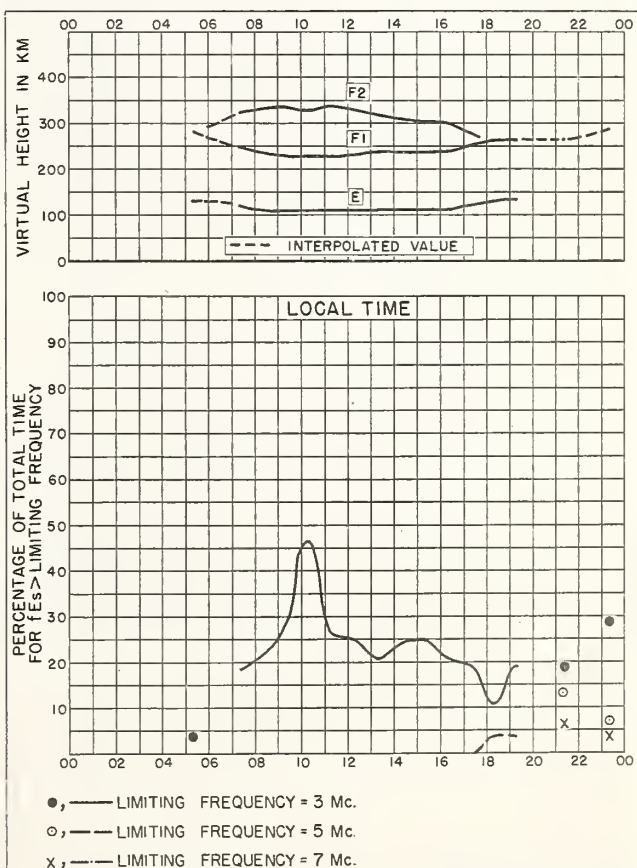


Fig. 136. CAMPBELL I.

OCTOBER 1951

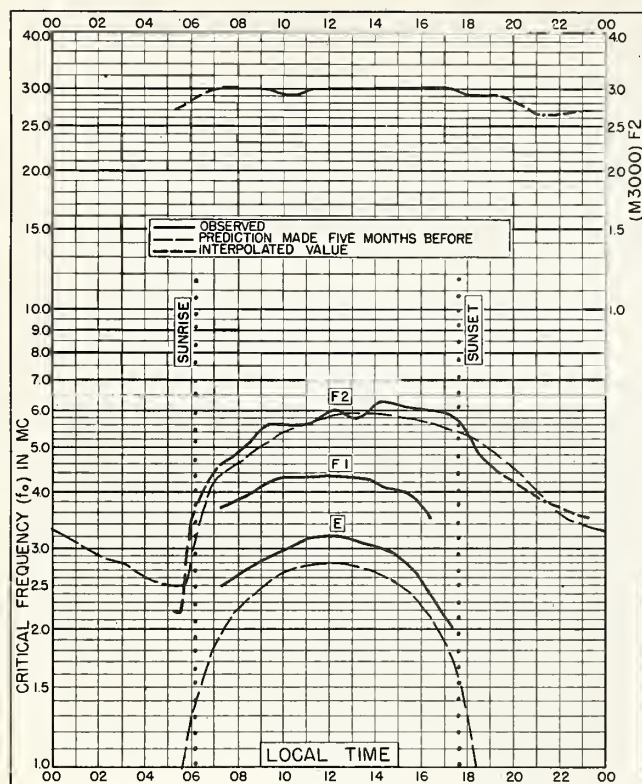


Fig. 137. CAMPBELL I.

52.5°S, 169.2°E

SEPTEMBER 1951

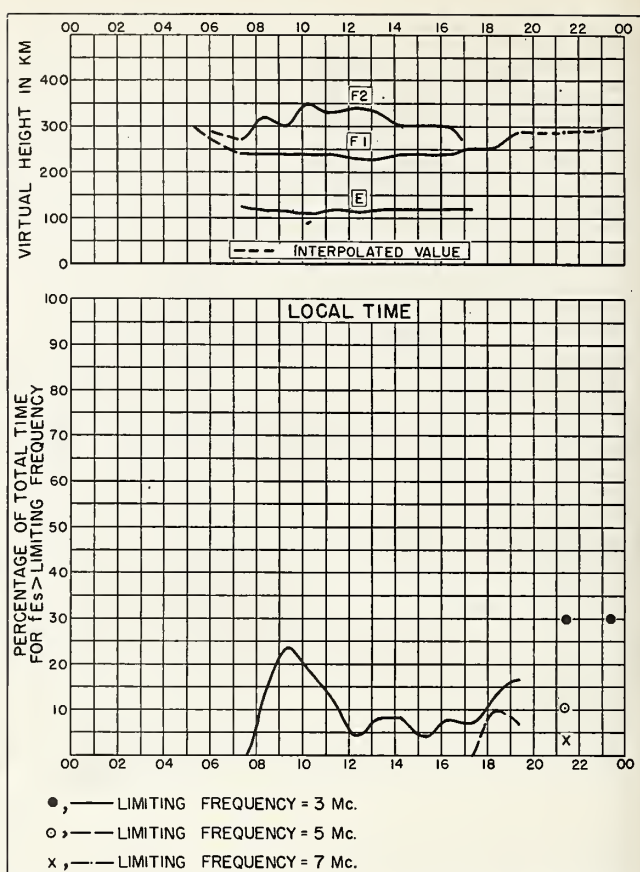


Fig. 138. CAMPBELL I.

SEPTEMBER 1951

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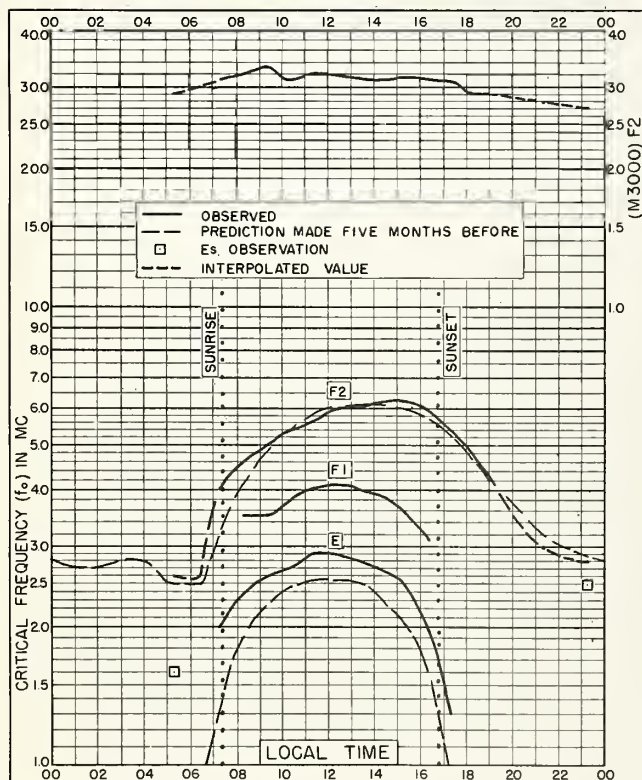


Fig. 139. CAMPBELL I.

52.5°S, 169.2°E

AUGUST 1951

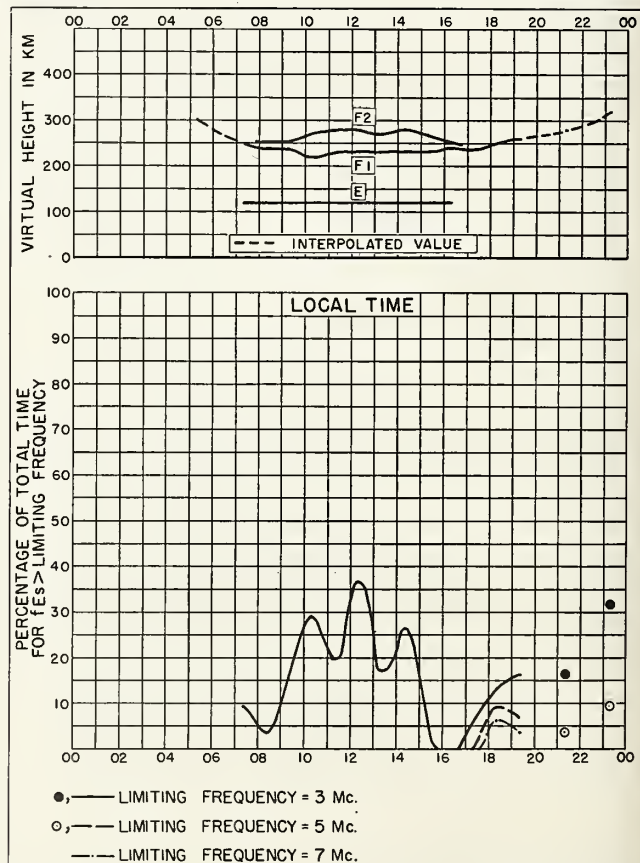


Fig. 140. CAMPBELL I.

AUGUST 1951

NBS 490

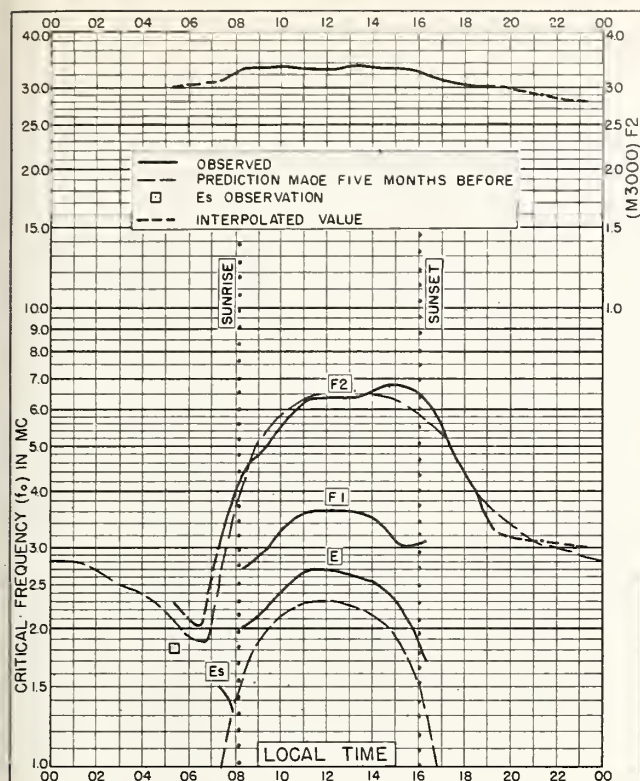


Fig. 141. CAMPBELL I.
52.5°S, 169.2°E

JULY 1951

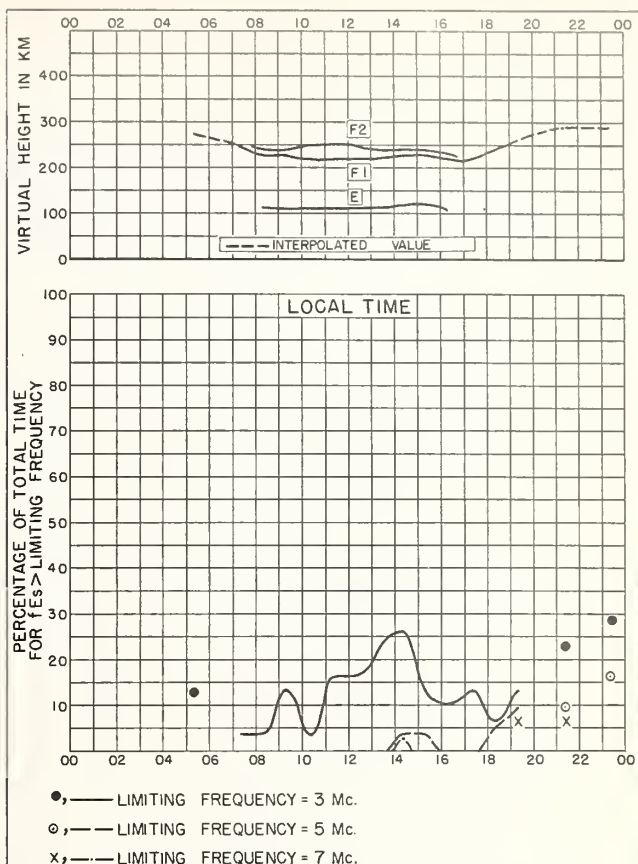


Fig. 142. CAMPBELL I.

JULY 1951

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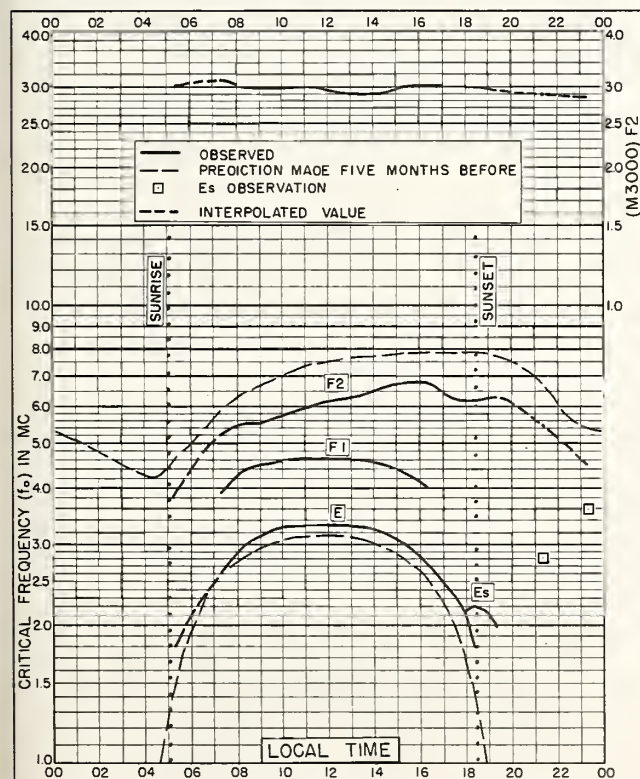


Fig. 143. CAMPBELL I.
52.5°S, 169.2°E

OCTOBER 1950

NBS 503

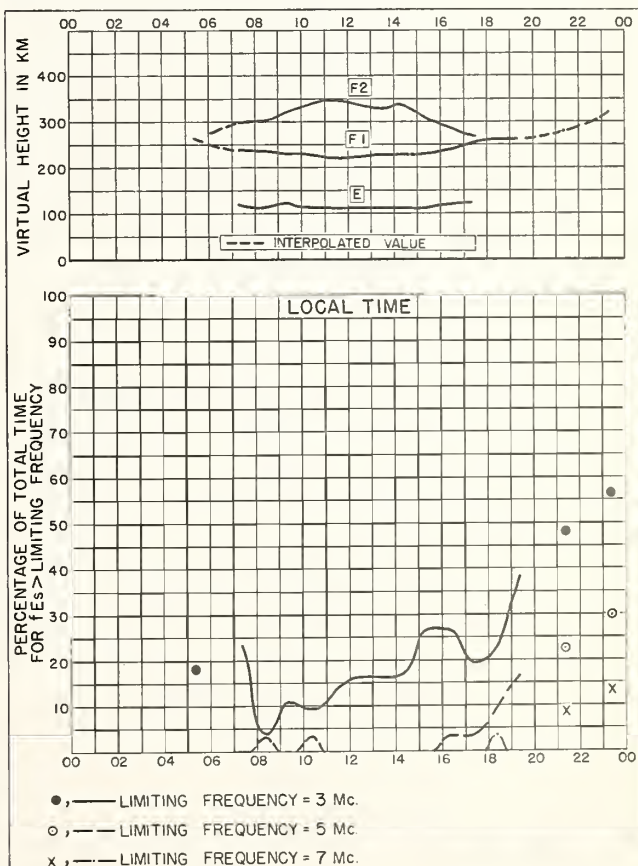


Fig. 144. CAMPBELL I.

OCTOBER 1950

NBS 490

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CRPL Reports

[A detailed list of CRPL publications is available from the Central Radio Propagation Laboratory upon request]

Daily:

Radio disturbance forecasts, every half hour from broadcast stations WWV and WWVH of the National Bureau of Standards.

Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

Semiweekly:

CRPL—J. North Atlantic Radio Propagation Forecast (of days most likely to be disturbed during following month).

CRPL—Jp. North Pacific Radio Propagation Forecast (of days most likely to be disturbed during following month).

Semimonthly:

CRPL—Ja. Semimonthly Frequency Revision Factors For CRPL Basic Radio Propagation Prediction Reports.

Monthly:

CRPL—D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11—499—, monthly supplements to TM 11—499; Dept. of the Navy, DNC 13 () series; Dept. of the Air Force, TO 31—3—28 series). On sale by Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Members of the Armed Forces should address cognizant military office.

CRPL—F. (Part A). Ionospheric Data.

(Part B). Solar-Geophysical Data.

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Circulars of the National Bureau of Standards pertaining to Radio Sky Wave Transmission:

NBS Circular 462. Ionospheric Radio Propagation.

NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions.

NBS Circular 557. Worldwide Radio Noise Levels Expected in the Frequency Band 10 Kilocycles to 100 Megacycles.

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